

## Courses in Autumn Semester 2021

### Agricultural Sciences Bachelor

#### ► 1. Semester

#### ►► First Year Examinations

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-2001-02L</b>	<b>Chemistry I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
529-2001-02 V	Chemie I <i>Vorlesung im HG F1 mit Videoübertragung ins HG F3.</i>			2 hrs	Tue	08-10	HG F1 HG F3	<b>J. Cvengros</b>
529-2001-02 U	Chemie I <i>Übungen:</i>  <i>Mi 14-16 für Umweltingenieurwissenschaften</i> <i>Do 10-12 für Agrar-, Lebensmittel-, Erdwissenschaften</i> <i>Fr 8-10 für Umweltnaturwissenschaften</i>			2 hrs	Wed Thu	14-16 10-12	CHN C14 ETZ E8 ETZ H91 HG G26.3 IFW A34 IFW B42	<b>J. Cvengros</b> , J. E. E. Buschmann, P. Funck, E. C. Meister, R. Verel
					Fri	08-10	ETZ J91 IFW A36	
<b>401-0251-00L</b>	<b>Mathematics I</b>	<b>O</b>	<b>6 credits</b>	<b>4V+2U</b>				
401-0251-00 V	Mathematik I: Analysis I und Lineare Algebra			4 hrs	Mon Wed Thu	09-10 12-14 09-10	HG E7 HG E7 HG E7	<b>F. Da Lio</b>
401-0251-00 U	Mathematik I: Analysis I und Lineare Algebra <i>Groups are selected in myStudies.</i> <i>Die Übungen beginnen in der zweiten Semesterwoche.</i> <i>Mo 14-16 für Studiengänge Erd- und Klimawissenschaften bzw. Umweltnaturwissenschaften.</i> <i>Di 14-16 für Studiengänge Agrarwissenschaften bzw. Lebensmittelwissenschaften.</i>  <i>Zusätzlich wird das Mathe-Lab (Präsenzstunden) angeboten: Mo 16-18 in CAB G 51 und Di 12-14 in HG E 1.2.</i>			2 hrs	Mon	14-16	CHN D44 CHN F42 ETZ E9 ETZ G91 ETZ H91 ETZ K91 HG F26.5 LFW C4 CAB G56 CLA E4 LFO C13 LFW C5 RZ F21	<b>F. Da Lio</b>
<b>551-0001-00L</b>	<b>General Biology I</b>	<b>O</b>	<b>3 credits</b>	<b>3V</b>				
551-0001-00 V	Biologie I: Allgemeine Biologie I			3 hrs	Wed Fri	09-10 10-12	ML D28 ETF C1	<b>U. Sauer</b> , O. Y. Martin, A. Widmer
<b>701-0243-01L</b>	<b>Biology III: Essentials of Ecology</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
701-0243-01 V	Biologie III: Ökologie <i>Vorlesung im HG F 1 mit Videoübertragung ins HG F 3.</i>			2 hrs	Mon	10-12	HG F1 HG F3	<b>C. Buser Moser</b>
<b>701-0027-00L</b>	<b>Environmental Systems I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
701-0027-00 V	Umweltsysteme I			2 hrs	Tue	10-12	HG F7	<b>C. Schär</b> , N. Dubois, G. Velicer
<b>751-0013-00L</b>	<b>World Food System</b>	<b>O</b>	<b>4 credits</b>	<b>4V</b>				
751-0013-00 V	Welternährungssystem (World Food System)			4 hrs	Mon Fri	14-16 08-10	CAB G61 CAB G61	<b>A. K. Gilgen</b> , J. Baumgartner, A. Bearth, R. Finger, M. Loessner, R. Mezzenga, B. Studer
<b>351-1158-00L</b>	<b>Principles of Economics</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
351-1158-00 G	Ökonomie <i>In classroom, online via livestreaming or zoom and recorded (Einführungsvorlesung 22.9. sowie Gastvorlesung 10.11.).</i> <i>In classroom, online via livestreaming or zoom, not recorded (4 groups); 6 Präsenzveranstaltungen.</i> <i>Online via livestreaming or zoom and recorded (1 group only zoom, this will be recorded).</i>			2 hrs	Wed	10-12	HG E41 LEE C104 LEE C114 LEE D101 LEE D105 ML D28 ML E12	<b>U. Renold</b> , T. Bolli, P. McDonald, M. E. Oswald- Egg, F. Pusterla

#### ►► Additional First Year Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-0801-00L</b>	<b>Fundamentals of Microscopy and Plant Biology</b>	<b>O</b>	<b>1 credit</b>	<b>1V+2G</b>					<b>E. B. Truernit</b>
751-0801-00 V	Grundlagen der Mikroskopie und Pflanzenbiologie <i>Die genauen Unterrichtszeiten von ONLINE - Veranstaltungen werden von den Dozierenden kommuniziert.</i>			1 hrs	Fri	13-14	ON LINE		

751-0801-00 G	Grundlagen der Mikroskopie und Pflanzenbiologie <i>Groups are selected in myStudies. Beginn der Lehrveranstaltung in der zweiten Semesterwoche</i>		2 hrs	Mon/2w	12-14	16-18	LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11	<b>E. B. Truernit</b>
<b>529-0030-00L</b>	<b>Laboratory Course: Elementary Chemical Techniques</b>	<b>O</b>	<b>3 credits</b>	<b>6P</b>				
529-0030-00 P	Praktikum Chemie <i>Vorwiegend BSc UWIS: Kurs 1 Vorwiegend BSc ERD, AGR, LM: Kurs 2</i>		6 hrs	17.01. 17.01.- 04.02.	08-10 08-10	13-15	CHN E46 CHN D42  CHN D44 CHN D46 CHN G22 CHN D42 CHN D44 CHN D46 CHN G22 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46	<b>N. Kobert</b> , A. de Mello, M. H. Schroth
<b>252-0839-00L</b>	<b>Informatics</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>				
252-0839-00 G	Einsatz von Informatikmitteln <i>Vorlesung: Fr 14-16 Uhr Individuelle Präsentation Projektaufgaben: restliche Zeiten alle 2 Wochen nach Voranmeldung</i>		2 hrs	Mon	18-19	18-19	HG E19 HG E26.3 HG E27 HG E19 HG E26.1 HG E26.3 HG E27 HG F7 HG E19 HG E26.1 HG E26.3 HG E27	<b>L. E. Fässler</b> , M. Dahinden
<b>► Basic Courses (Second Year)</b>								
<b>►► Examination Block</b>								
Number	Title	Type	ECTS	Hours			Lecturers	
<b>402-0063-00L</b>	<b>Physics II</b>	<b>O</b>	<b>5 credits</b>	<b>3V+1U</b>				
402-0063-00 V	Physik II			3 hrs	Mon	13-14	ML D28	<b>A. Vaterlaus</b>
					Wed	13-15	HPH G2	
402-0063-00 U	Physik II <i>Fr 8-9 Uhr im Zentrum für UMNW Studierende</i>			1 hrs	Wed	15-16	HCI D4 HCI D6 HCI E8 HCI F2 HCI F8 HCI J8 HIL C10.2 HIL E5 HIT H42 HIT J51 HPK D24.2 HG E21	<b>A. Vaterlaus</b>
					Fri	08-09		
<b>701-0071-00L</b>	<b>Mathematics III: Systems Analysis</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>				
701-0071-00 V	Mathematik III: Systemanalyse			2 hrs	Fri	10-12	ML D28	<b>R. Knutti</b> , S. Schemm, H. Wernli
701-0071-00 U	Mathematik III: Systemanalyse			1 hrs	Mon	11-12	CAB G57 CHN F46 HG E33.3 HG F26.5 HG G26.3 LEE D101 LEE D105 LEE E101 ML E12 ML F34 NO E11 NO E39	<b>L. Brunner</b> , S. Schemm, P. Zschenderlein

<b>401-0624-00L</b>	<b>Mathematics IV: Statistics</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>					
401-0624-00 V	Mathematik IV: Statistik			2 hrs	Thu	08-10	ML D28	<b>J. Ernest</b>	
401-0624-00 U	Mathematik IV: Statistik			1 hrs	Thu	10-11	ML F34 ML J34.1 HG E33.1	<b>J. Ernest</b>	
	Groups are selected in myStudies. Do 10-11 für Studiengang Lebensmittelwissenschaften. Do 13-14 für Studiengang Agrarwissenschaften. Do 16-17 für Studiengang Erd- und Klimawissenschaften. Fr 9-10 für Studiengang Umweltnaturwissenschaften. Do 18-19 als Online-Übung ausschliesslich für Studierende, welche nicht an den regulären Übungen in Präsenz teilnehmen können.					13-14 16-17 18-19 09-10	ON LINE CAB G59 LFW E13 ML F40		
<b>752-4001-00L</b>	<b>Microbiology</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>					
752-4001-00 V	Mikrobiologie			2 hrs	Mon	08-10	ML D28	<b>M. Ackermann, M. Schuppler, J. Vorholt-Zambelli</b>	
<b>701-0501-00L</b>	<b>Pedosphere</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					
701-0501-00 V	Pedosphäre			2 hrs	Thu	10-12	HG G3	<b>R. Kretzschmar</b>	
<b>751-1311-00L</b>	<b>Introduction to Agricultural Management</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>					
751-1311-00 V	Einführung in das Agrarmanagement			2 hrs	Wed	08-10	CAB G61	<b>R. Finger</b>	
<b>752-6003-00L</b>	<b>Introduction to Nutritional Science</b>	<b>O</b>	<b>2 credits</b>	<b>1.5V</b>					
752-6003-00 V	Ernährungswissenschaft ■			1.5 hrs	Fri	08-10	HG F7	<b>M. B. Zimmermann, C. Wolfrum</b>	
	Course is taught in English (M. Zimmermann) and German (Ch. Wolfrum)  Unregelmässige Lehrveranstaltung. Der Kursinhalt umfasst 2/3 der Vorlesung 752-6001-00 V Introduction to Nutritional Science. Die genauen Daten mit dem detaillierten Programm werden separat bekannt gegeben.								

### ► Agricultural Sciences Basic Courses

Number	Title	Type	ECTS	Hours	Lecturers				
<b>751-8003-00L</b>	<b>Genetics in Agricultural Sciences</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>					
	Only for Agricultural Sciences BSc.								
751-8003-00 G	Agrargenetik			2 hrs	Thu	10-12	LFW C4	<b>H. Pausch, B. Studer</b>	

### ► Agricultural Sciences Disciplines

#### ►► Agricultural Economics

Number	Title	Type	ECTS	Hours	Lecturers				
<b>363-1109-00L</b>	<b>Introduction to Microeconomics</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					
	GESS (Science in Perspective): This course is only for students enrolled in a Bachelor's degree programme.  Students enrolled in a Master's degree programme may attend "Principles of Microeconomics" (LE 363-0503-00L) instead.  Note for D-MAVT students: If you have already successfully completed "Principles of Microeconomics" (LE 363-0503-00L), then you will not be permitted to attend it again.								
363-1109-00 G	Einführung in die Mikroökonomie Zusätzliche (freiwillige) Termine für Übungen zur Vorlesung werden zu Beginn der Vorlesung bekanntgegeben.			2 hrs	Tue	10-12	HG E5	<b>M. Wörter, M. Beck</b>	
<b>751-0903-00L</b>	<b>Microeconomics of the Agriculture and Food Sector</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>					
751-0903-00 V	Mikroökonomie des Agrar- und Lebensmittelsektors			2 hrs	Thu	08-10	LFW C1	<b>S. Wimmer</b>	
<b>751-0401-00L</b>	<b>Optimization of Agricultural Production Systems</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
751-0401-00 G	Optimierung landwirtschaftlicher Produktionssysteme			2 hrs	Mon	14-16	LFW B1	<b>R. Huber</b>	
<b>363-0537-00L</b>	<b>Resource and Environmental Economics</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
363-0537-00 G	Resource and Environmental Economics The lecture takes place in classroom, online via livestreaming and recorded.			2 hrs	Wed	10-12	HG G3	<b>L. Bretschger</b>	
<b>752-2120-00L</b>	<b>Consumer Behaviour I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
752-2120-00 V	Consumer Behaviour I Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.			2 hrs	Fri	14-16	HG G3	<b>M. Siegrist, A. Bearth, A. Berthold</b>	
<b>751-5005-00L</b>	<b>Agroecology and the Transition to Sustainable Food Systems</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					

751-5005-00 G	Agroecology and the Transition to Sustainable Food Systems <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Tue	18-19 19-20	CHN C14 CHN E42 CHN E46	<b>M. Sonneveld</b> , M. Grant, S. E. Ulbrich, B. Wehrli
---------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	-----	----------------	-------------------------------	-------------------------------------------------------------

## ►► Plant Sciences

Number	Title	Type	ECTS	Hours				Lecturers
<b>751-3700-00L</b>	<b>Plant Ecophysiology</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
751-3700-00 V	Ökophysiologie <i>Teile der Lehrveranstaltung wird in Englisch gehalten.</i>			2 hrs	Thu	16-18	LFW C5	<b>M. Gharun</b> , M. Lehmann, A. Walter
<b>751-3401-00L</b>	<b>Plant Nutrition I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
751-3401-00 V	Pflanzenernährung I			2 hrs	Tue	08-10	ML F36	<b>E. Frossard</b>
<b>751-4108-00L</b>	<b>Innovation in Smart Farming</b> <i>Number of participants limited to 16.</i>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
	<i>A motivation letter must be submitted after the first lecture Monday 27.9. (maximum 100 words) until 29.9. to Achim Walter (Achim.Walter@usys.ethz.ch). A confirmation of the definitive participation in the course will be communicated on 1.10. The definitive registration for the course will be undertaken by the study secretariat.</i>							
751-4108-00 G	Innovation in Smart Farming			2 hrs	Mon	16-18	LFW B1	<b>A. Walter</b>
<b>751-4504-00L</b>	<b>Plant Pathology I</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>				
751-4504-00 G	Plant Pathology I			2 hrs	Wed	14-16	LFW C5	<b>B. McDonald</b>
<b>751-4801-00L</b>	<b>System-Oriented Management of Herbivore Insects</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>				
751-4801-00 G	Systembezogene Bekämpfung herbivorer Insekten <i>Does not take place this semester.</i>			2 hrs	to be announced			
<b>751-5003-00L</b>	<b>Sustainable Agroecosystems II</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>				
751-5003-00 V	Sustainable Agroecosystems II			2 hrs	Thu/2w	14-18	LFW B1	<b>K. Benabderrazik</b> , M. Hartmann
<b>751-4201-00L</b>	<b>Horticulture</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>				
751-4201-00 V	Hortikultur <i>NB: Die Vorlesungen zum Thema Rebbau werden in Französisch unterrichtet.</i>			2 hrs	Mon	10-12	LFW C5	<b>C. Carlen</b> , A. Bühlmann, A. Guyer, A. Näf, T. Verdenal
<b>751-5005-00L</b>	<b>Agroecology and the Transition to Sustainable Food Systems</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
751-5005-00 G	Agroecology and the Transition to Sustainable Food Systems <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	18-19 19-20	CHN C14 CHN E42 CHN E46	<b>M. Sonneveld</b> , M. Grant, S. E. Ulbrich, B. Wehrli

## ►► Animal Sciences

Number	Title	Type	ECTS	Hours				Lecturers
<b>751-6101-00L</b>	<b>Anatomy and Physiology of Man and Animals I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
751-6101-00 V	Anatomie und Physiologie von Mensch und Tier I <i>Gemäss speziellem Programm</i>			2 hrs	Wed	10-12	LFW C5	<b>S. E. Ulbrich</b> , T. Fleischmann, J. Müller
<b>751-7501-00L</b>	<b>Animal Housing and Behaviour</b>	<b>O</b>	<b>1 credit</b>	<b>1V</b>				
751-7501-00 V	Animal Housing and Behaviour			1 hrs	Thu/1	14-16	LFO C13	<b>J. Müller</b> , S. Goumon
<b>751-7101-00L</b>	<b>Applied Animal Nutrition</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>				
751-7101-00 G	Angewandte Tierernährung <i>Zusätzlicher Termin (Betriebsbesuch) am Dienstagnachmittag 30.11.2021.</i>			2 hrs	Fri/2	08-12	ML F36	<b>S. Müller</b> , G. Bee, M. A. Boessinger, F. Leiber, F. Sutter
<b>751-7103-00L</b>	<b>Animal Feed and Feeding of Ruminants</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>				
751-7103-00 V	Futtermittel und Fütterung beim Wiederkäuer			2 hrs	Tue	10-12	LFW B1	<b>M. A. Boessinger</b>
<b>751-6121-00L</b>	<b>Regulatory Physiology</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>				
751-6121-00 V	Regulationsphysiologie			2 hrs	Wed	12-14	HG E22	<b>S. E. Ulbrich</b> , J. Müller, M. Saenz de Juano Ribes
<b>751-5005-00L</b>	<b>Agroecology and the Transition to Sustainable Food Systems</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
751-5005-00 G	Agroecology and the Transition to Sustainable Food Systems <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	18-19 19-20	CHN C14 CHN E42 CHN E46	<b>M. Sonneveld</b> , M. Grant, S. E. Ulbrich, B. Wehrli

## ► Methods

Number	Title	Type	ECTS	Hours				Lecturers
<b>751-0441-00L</b>	<b>Scientific Analysis and Presentation of Data</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>				
751-0441-00 G	Wissenschaftliche Datenauswertung und -präsentation			2 hrs	Wed	08-10	HG E19	<b>W. Eugster</b>
<b>751-1010-00L</b>	<b>Introduction to Scientific Methods Part</b>	<b>O</b>	<b>2 credits</b>	<b>4G</b>				

## II: Scientific Writing

Only for Agricultural Sciences BSc.

751-1010-00 G	Wissenschaftliches Arbeiten Teil II: Wissenschaftliches Schreiben	4 hrs	Tue	14-18	LFW B1	<b>R. Kölliker</b> , J. Anderegg, A. Feurtey, A. K. Gilgen, M. Laub, A. Oberson Dräyer, B. Studer, F. Tamburini, D. J. Wüpper
---------------	-------------------------------------------------------------------	-------	-----	-------	--------	-------------------------------------------------------------------------------------------------------------------------------

751-0206-00L	<b>Applied Laboratory Techniques in Agricultural Sciences</b> <i>The course is compulsory for students in 5th semester BSc Agricultural Sciences.</i>	O	4 credits	4P					
751-0206-00 P	Agrarwissenschaftliches Labor- und Methodenpraktikum ■ <i>Die Lehrveranstaltung fängt in der zweiten Semesterwoche an. Das allgemeine molekularbiologische Modul findet statt an 5 Freitagen in der ersten Semesterhälfte: von 8.00-10.00 und 16.00-17.00 im CHN F 42 statt, von 10.00-16.00 im CHN D 53.2. Das angewandte Methodentraining findet in der vorlesungsfreien Zeit statt, die genaue Daten werden von den Gruppenverantwortlichen kommuniziert.</i>		4 hrs	Fri/1	08-10 10-16 16-17	CHN F42 CHN D53.2 CHN E42	<b>G. Broggini</b> , M. Gharun, M. Hartmann, S. Neuenschwander, L. P. Schönholzer, B. Studer, S. Yates		
<i>Folgende Gruppen werden voraussichtlich angeboten:</i> 1. Plant Pathology; 2. Plant Nutrition; 3. Grassland Sciences; 4. Molecular Plant Breeding; 5. Sustainable Agroecosystems									

## ► Electives

*The electives listed are recommended.*

*However, electives can be chosen from the complete course offer of the ETH Zurich and University of Zurich.*

Number	Title	Type	ECTS	Hours					Lecturers
751-0903-00L	Microeconomics of the Agriculture and Food Sector	W	3 credits	2V					
751-0903-00 V	Mikroökonomie des Agrar- und Lebensmittelsektors			2 hrs	Thu	08-10	LFW C1	S. Wimmer	
751-0401-00L	Optimization of Agricultural Production Systems	W	3 credits	2G					
751-0401-00 G	Optimierung landwirtschaftlicher Produktionssysteme			2 hrs	Mon	14-16	LFW B1	R. Huber	
363-0537-00L	Resource and Environmental Economics	W	3 credits	2G					
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Wed	10-12	HG G3	L. Bretschger	
752-2120-00L	Consumer Behaviour I	W	2 credits	2V					
752-2120-00 V	Consumer Behaviour I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	14-16	HG G3	M. Siegrist, A. Bearth, A. Berthold	
751-4108-00L	Innovation in Smart Farming <i>Number of participants limited to 16.</i>  <i>A motivation letter must be submitted after the first lecture Monday 27.9. (maximum 100 words) until 29.9. to Achim Walter (Achim.Walter@usys.ethz.ch). A confirmation of the definitive participation in the course will be communicated on 1.10. The definitive registration for the course will be undertaken by the study secretariat.</i>	W	3 credits	2G					
751-4108-00 G	Innovation in Smart Farming			2 hrs	Mon	16-18	LFW B1	A. Walter	
751-4504-00L	Plant Pathology I	W	2 credits	2G					
751-4504-00 G	Plant Pathology I			2 hrs	Wed	14-16	LFW C5	B. McDonald	
751-4801-00L	System-Oriented Management of Herbivore Insects	W	2 credits	2G					
751-4801-00 G	Systembezogene Bekämpfung herbivorer Insekten <i>Does not take place this semester.</i>			2 hrs					to be announced
751-5003-00L	Sustainable Agroecosystems II	W	2 credits	2V					
751-5003-00 V	Sustainable Agroecosystems II			2 hrs	Thu/2w	14-18	LFW B1	K. Benabderrazik, M. Hartmann	
751-7101-00L	Applied Animal Nutrition	W	2 credits	2G					
751-7101-00 G	Angewandte Tierernährung <i>Zusätzlicher Termin (Betriebsbesuch) am Dienstagnachmittag 30.11.2021.</i>			2 hrs	Fri/2	08-12	ML F36	S. Müller, G. Bee, M. A. Boessinger, F. Leiber, F. Sutter	
751-7103-00L	Animal Feed and Feeding of Ruminants	W	2 credits	2V					
751-7103-00 V	Futtermittel und Fütterung beim Wiederkäuer			2 hrs	Tue	10-12	LFW B1	M. A. Boessinger	
751-6121-00L	Regulatory Physiology	W	2 credits	2V					
751-6121-00 V	Regulationsphysiologie			2 hrs	Wed	12-14	HG E22	S. E. Ulbrich, J. Müller, M. Saenz de Juano Ribes	
751-5005-00L	Agroecology and the Transition to Sustainable Food Systems	W+	2 credits	2G					

751-5005-00 G	Agroecology and the Transition to Sustainable Food Systems <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Tue	18-19 19-20	CHN C14 CHN E42 CHN E46	<b>M. Sonneveld</b> , M. Grant, S. E. Ulbrich, B. Wehrli
---------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	-----	----------------	-------------------------------	-------------------------------------------------------------

**701-0903-00L The Sustainable Development Goals Book Club W+ 2 credits**

701-0903-00 K	The Sustainable Development Goals Book Club <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>	2s hrs	Thu	18-20	CHN E46	<b>B. B. Pearce</b> , J. Ghazoul
---------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------	-----	-------	---------	----------------------------------

► **Bachelor's Thesis**

Number	Title	Type	ECTS	Hours	Lecturers
751-1020-10L	Bachelor's Thesis	O	14 credits	30D	
751-1020-10 D	Bachelor-Arbeit			420s hrs	Lecturers

**Agricultural Sciences Bachelor - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Agricultural Sciences TC

Detailed information on the programme at: [www.didaktischeausbildung.ethz.ch](http://www.didaktischeausbildung.ethz.ch)

## ► Educational Science

Number	Title	Type	ECTS	Hours					Lecturers
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V					
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1		E. Stern
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S					
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1		R. Schumacher
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S					
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40		E. Stern
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S					
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1		P. Edelsbrunner, T. Braas, C. M. Thurn
851-0240-22L	<b>Coping with Psychosocial Demands of Teaching (EW4 DZ)</b> <i>Number of participants limited to 20.</i>  <i>The successful participation in EW1 ("Human Learning") and EW2 ("Designing Learning Environments for School") is recommended, but not a mandatory prerequisite.</i>	W	2 credits	3S					
851-0240-22 S	Bewältigung psychosozialer Anforderungen im Lehrberuf (EW4 DZ) ■			3 hrs	Tue	09-12	HG E33.1 HG F26.5 HG G26.1		U. Markwalder, S. Maurer, S. Peteranderl
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S					
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114		M. Berkowitz Biran, T. Braas, C. M. Thurn

## ► Subject Didactics and Professional Training

*Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.*

Number	Title	Type	ECTS	Hours	Lecturers
751-9020-00L	<b>Teaching Internship Including Examination Lessons Agricultural Science</b> <i>The teaching internship can just be visited if all other courses of TC are completed. Repetition of the teaching internship is excluded even if the examination lessons are to be repeated.</i>	W	6 credits	13P	
751-9020-00 P	Unterrichtspraktikum mit Prüfungslektionen Agrarwissenschaft DZ ■			180s hrs by appt.	G. Kaufmann

## ► Further Subject Didactics

*For students enrolled from HS 2019: The courses offered here are credited under the category «Subject Didactics and Professional Training».*

Number	Title	Type	ECTS	Hours	Lecturers
751-9005-00L	<b>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus Agricul. Sc A</b>	O	2 credits	4A	
751-9005-00 A	Mentorierte Arbeit fachwissenschaftliche Vertiefung mit pädagogischem Fokus Agrarwissenschaft A ■			60s hrs by appt.	G. Kaufmann, K. Koch, U. Lerch

### Agricultural Sciences TC - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.



# Agroecosystem Sciences Master

## ► Major in Animal Sciences

### ►► Disciplinary Competences

#### ►►► LivestockSystems

Number	Title	Type	ECTS	Hours				Lecturers	
<b>751-6501-00L</b>	<b>Ruminant Science (HS)</b>	<b>W+</b>	<b>4 credits</b>	<b>4G</b>					<b>K. Giller</b> , M. Terranova, U. Witschi
751-6501-00 G	Ruminant Science			4 hrs	Wed	10-12 14-16	LFW C11 LFW C11		
<b>751-6601-00L</b>	<b>Pig Science (HS)</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>					to be announced
751-6601-00 V	Pig Science (HS) <i>Does not take place this semester.</i>			2 hrs					
<b>751-6001-00L</b>	<b>Forum: Livestock in the World Food System</b>	<b>W+</b>	<b>2 credits</b>	<b>1S</b>					<b>S. Meese</b>
751-6001-00 S	Forum: Livestock in the World Food System <i>Number of participants limited to 20. Durchführung gemäss speziellem Programm.</i>			1 hrs	Wed	08-10	LFW C1		

#### ►►► Livestock Biology

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-7211-00L</b>	<b>Ruminal Digestion</b>	<b>W+</b>	<b>1 credit</b>	<b>1G</b>					not available
751-7211-00 G	Ruminal Digestion <i>Does not take place this semester. Diese LV wird im HS21 nicht als Einzelveranstaltung angeboten - die Inhalte sind jedoch Teil von 751-6501-00 Ruminant Sciences.</i>			1 hrs					
<b>751-6113-00L</b>	<b>Endocrinology and Biology of Reproduction</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
751-6113-00 G	Endocrinology and Biology of Reproduction			2 hrs	Thu	12-14	LFW C11	<b>S. E. Ulbrich,</b> S. M. Bernal Ulloa	
<b>751-7310-00L</b>	<b>Bioactive Food and Feed Components</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>					<b>K. Giller</b>
751-7310-00 V	Bioactive Food and Feed Components <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Tue	08-10	LFW C11		
<b>701-0263-01L</b>	<b>Seminar in Evolutionary Ecology of Infectious Diseases</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
701-0263-01 G	Seminar in Evolutionary Ecology of Infectious Diseases			2 hrs	Tue	16-18	CHN F42	<b>R. R. Regös,</b> S. Bonhoeffer	

#### ►►► Livestock Genetics

Number	Title	Type	ECTS	Hours				Lecturers
<b>751-6243-00L</b>	<b>Breeding and conservation of Animal Genetic Resources</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>				<b>H. Signer-Hasler</b> , C. Flury, S. Neuenschwander
751-6243-00 V	Züchtung und Erhaltung tiergenetischer Ressourcen <i>Die Lehrveranstaltung besteht aus regelmässigen LV in der ersten Semesterhälfte und aus einem Blockkurs am 25.-26. Januar 2022.</i>			2 hrs	Mon/1 25.01. 26.01.	14-16 08-18 08-18	NO E39 CHN F42 CHN F42	
<b>751-6305-00L</b>	<b>Livestock Breeding and Genomics</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				<b>P. von Rohr</b>
751-6305-00 G	Livestock Breeding and Genomics			3 hrs	Fri	09-12	LFW C11	

## ►► Methodology Competences

### ►►► Methods for Scientific Research

Number	Title	Type	ECTS	Hours					Lecturers
751-3801-00L	Experimental Design and Applied Statistics in Agroecosystem Science	W	3 credits	2G					A. Hund, W. Eugster, C. Grieder, R. Kölliker
751-3801-00 G	Experimental Design and Applied Statistics in Agroecosystem Science <i>Course will be held in German unless there are students present who ask for English lecturing. Handouts are in English. Students should be aware that in addition to 2 weeks of presence during the course there are 3-5 hours per week of individual study necessary to fulfill the targets of this course.</i>			2 hrs	Thu	10-12	HG E19		
751-6127-00L	Practical Course in Microscopy of Functional Histology	W+	3 credits	6P					not available
751-6127-00 P	Practical Course in Microscopy of Functional Histology <i>Does not take place this semester.</i>			90s hrs					
751-6129-00L	Practical Course Epigenetics	W+	3 credits	6P					not available
751-6129-00 P	Practical Course Epigenetics <i>Does not take place this semester.</i>			90s hrs					
751-6003-00L	Training Course in Research Groups (Large)	W+	6 credits	13P					

751-6003-00 P	Training Course in Research Groups (Large) ■ <i>Durchführung in Semesterferien, darf nicht mit 751-6003-01 P kombiniert werden</i>			180s hrs					S. M. Bernal Ulloa, S. Neuenschwander, H. Pausch, M. Saenz de Juano Ribes, S. E. Ulbrich
<b>751-6003-01L</b>	<b>Training Course in Research Groups (Small)</b>	<b>W+</b>	<b>3 credits</b>	<b>6P</b>					
751-6003-01 P	Training Course in Research Groups (Small) ■ <i>Durchführung in Semesterferien, darf nicht mit 751-6003-00 P kombiniert werden</i>			90s hrs					S. M. Bernal Ulloa, S. Neuenschwander, H. Pausch, M. Saenz de Juano Ribes, S. E. Ulbrich

### ►►► Project Management for Scientific Research

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-6001-00L</b>	<b>Forum: Livestock in the World Food System</b> <i>Number of participants limited to 20.</i>	<b>W+</b>	<b>2 credits</b>	<b>1S</b>					
751-6001-00 S	Forum: Livestock in the World Food System <i>Durchführung gemäss speziellem Programm.</i>			1 hrs	Wed	08-10	LFW C1		<b>S. Meese</b>
<b>751-5201-10L</b>	<b>Tropical Cropping Systems, Soils and Livelihoods</b> <i>This course has been restructured due to Covid-19 restrictions, part I (2 CP) takes place in Autumn 2021, part II (3 CP) in Spring 2022, with an excursion/fieldwork. For more information, please contact the lecturer: kenza.benabderrazik@usys.ethz.ch</i>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
751-5201-10 G	Tropical Cropping Systems, Soils and Livelihoods <i>This has been restructured due to Covid-19 restrictions, the excursion/field work will take place in spring 2022. For more information, please contact the lecturer: kenza.benabderrazik@usys.ethz.ch</i>			2 hrs	Thu 23.09.	08-10 08-10	CHN G22 CHN E42		<b>J. Six</b> , K. Benabderrazik

### ► Major in Plant Sciences

#### ►► Disciplinary Competences

#### ►►► Agronomy and Plant Breeding

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-4104-00L</b>	<b>Alternative Crops</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>					
751-4104-00 V	Alternative Crops			2 hrs	Wed	16-18	LFW C5		<b>A. Walter</b> , K. Berger Büter
<b>751-3603-00L</b>	<b>Current Challenges in Plant Breeding</b> <i>Number of participants limited to 15.</i>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
751-3603-00 G	Current Challenges in Plant Breeding <i>This course is composed by two parts: - a compulsory information event, in which the preparation and task assignment will take place from 14.00-17.00 on 5. November 2021. - a seminar, in which the group tasks will be presented, which takes place on 27. January 2022.</i>			2 hrs	05.11. 27.01.	14-17 08-18	n/a CAB G51		<b>B. Studer</b> , A. Hund
<b>751-4704-00L</b>	<b>Weed Science</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
751-4704-00 G	Weed Science			2 hrs	Thu	14-16	LFW B3		<b>B. Streit</b> , U. J. Haas

#### ►►► Crop Health

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-5121-00L</b>	<b>Insect Ecology</b> <i>The number of participants is limited to 30.</i>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>					
751-5121-00 V	Insect Ecology			2 hrs	Tue	14-16	LFW B3		<b>C. De Moraes</b> , M. Mescher, N. Stanczyk
<b>751-4811-00L</b>	<b>Alien Organisms in Agriculture</b> <i>Number of participants limited to 30.</i>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
751-4811-00 G	Alien Organisms in Agriculture			2 hrs	Tue	08-10	CAB G59		<b>J. Collatz</b> , M. Meissle
<b>701-0263-01L</b>	<b>Seminar in Evolutionary Ecology of Infectious Diseases</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
701-0263-01 G	Seminar in Evolutionary Ecology of Infectious Diseases			2 hrs	Tue	16-18	CHN F42		<b>R. R. Regós</b> , S. Bonhoeffer
<b>751-4506-00L</b>	<b>Plant Pathology III</b> <i>Number of participants limited to 20.</i>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
751-4506-00 G	Pflanzenpathologie III			2 hrs	Tue	10-12	LFW E15		<b>M. Maurhofer Bringolf</b>

#### ►►► Agriculture and Environment

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-5101-00L</b>	<b>Biogeochemistry and Sustainable Management</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
751-5101-00 G	Biogeochemistry and Sustainable Management <i>Does not take place this semester.</i>			2 hrs					W. Eugster, V. Klaus
<b>751-3405-00L</b>	<b>Chemical Nature of Nutrients and their</b>	<b>W+</b>	<b>4 credits</b>	<b>4G</b>					

### Availability to Plants: The Case of Phosphorus

Number of participants limited to 15.

Priority will be given to students in

Agricultural Sciences

751-3405-00 G	Chemical Nature of Nutrients and their Availability to Plants: The Case of Phosphorus <i>The lectures will spread over 13 Friday mornings in the autumn semester. The lecture will be organized in Eschikon, in the Group of Plant Nutrition at the Experimental station Eschikon, 8315 Eschikon-Lindau. The location of the experimental station Eschikon is given at <a href="http://www.ias.ethz.ch/researchstation/eschikon">http://www.ias.ethz.ch/researchstation/eschikon</a>.</i>	56s hrs							
---------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------	--	--	--	--	--	--	--

**E. Frossard,**  
L. P. Schönholzer,  
M. Wiggerhauser

<b>751-5125-00L</b>	<b>Stable Isotope Ecology of Terrestrial Ecosystems</b> <i>Number of participants limited to 20.</i>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
751-5125-00 G	Stable Isotope Ecology of Terrestrial Ecosystems ■ <i>This block course takes place on 14 January 2022 to 21 January 2022.</i>			2 hrs	14.01.- 21.01.	08-18	LFW B2		<b>R. A. Werner,</b> N. Buchmann, A. Gessler, M. Lehmann

## ►► Methodology Competences

### ►►► Seminar in Plant Sciences

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-5115-00L</b>	<b>Current Aspects of Nutrient Cycle in Agro-Ecosystems</b>	<b>W+</b>	<b>2 credits</b>	<b>1S</b>					
751-5115-00 S	Current Aspects of Nutrient Cycle in Agro-Ecosystems (with Excursion) <i>Does not take place this semester.</i>			18s hrs					<b>E. Frossard</b>
<b>751-4003-01L</b>	<b>Current Topics in Grassland Sciences (HS)</b>	<b>W+</b>	<b>2 credits</b>	<b>2S</b>					
751-4003-01 S	Current Topics in Grassland Sciences <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Mon	16-18	LFW C1		<b>A. K. Gilgen</b>

### ►►► Design, Analysis and Communication of Science

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-3801-00L</b>	<b>Experimental Design and Applied Statistics in Agroecosystem Science</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					
751-3801-00 G	Experimental Design and Applied Statistics in Agroecosystem Science <i>Course will be held in German unless there are students present who ask for English lecturing. Handouts are in English. Students should be aware that in addition to 2 weeks of presence during the course there are 3-5 hours per week of individual study necessary to fulfill the targets of this course.</i>			2 hrs	Thu	10-12	HG E19		<b>A. Hund,</b> W. Eugster, C. Grieder, R. Kölliker
<b>751-5201-10L</b>	<b>Tropical Cropping Systems, Soils and Livelihoods</b> <i>This course has been restructured due to Covid-19 restrictions, part I (2 CP) takes place in Autumn 2021, part II (3 CP) in Spring 2022, with an excursion/fieldwork. For more information, please contact the lecturer: <a href="mailto:kenza.benabderrazik@usys.ethz.ch">kenza.benabderrazik@usys.ethz.ch</a></i>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
751-5201-10 G	Tropical Cropping Systems, Soils and Livelihoods <i>This has been restructured due to Covid-19 restrictions, the excursion/field work will take place in spring 2022. For more information, please contact the lecturer: <a href="mailto:kenza.benabderrazik@usys.ethz.ch">kenza.benabderrazik@usys.ethz.ch</a></i>			2 hrs	Thu 23.09.	08-10 08-10	CHN G22 CHN E42		<b>J. Six,</b> K. Benabderrazik

## ► Major in Agriculture Economics

### ►► Disciplinary Competences

#### ►►► Decision Making and Management

Number	Title	Type	ECTS	Hours					Lecturers
<b>363-0403-00L</b>	<b>Introduction to Marketing</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
363-0403-00 G	Introduction to Marketing <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Tue	14-16	HG E5		<b>S. Brüggemann,</b> F. von Wangenheim
<b>751-2205-00L</b>	<b>Management for Enterprises in the Agri-Food-Chain II</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
751-2205-00 G	Management for Enterprises in the Agri-Food-Chain II			2 hrs	Mon	08-10	NO C44		<b>M. Weber</b>

### ►►► Resource Economics and Agricultural Policy

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-2903-00L</b>	<b>Evaluation of Agricultural Policies</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
751-2903-00 G	Evaluation of Agricultural Policies			2 hrs	Thu	16-18	ML J34.3		<b>R. Huber,</b> R. Finger, C. Schader

<b>701-1651-00L</b>	<b>Environmental Governance</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
701-1651-00 G	Environmental Governance			3 hrs	Tue	10-13	CHN E46	<b>E. Lieberherr</b>	

### ►►► Development and International Policy

Number	Title	Type	ECTS	Hours				Lecturers
<b>751-2103-00L</b>	<b>Socioeconomics of Agriculture</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>				
751-2103-00 V	Socioeconomics of Agriculture			2 hrs	Tue	08-10	LFW B3	<b>S. Mann</b>
<b>851-0626-01L</b>	<b>International Aid and Development</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>				
	<i>Number of participants limited to 60</i>							
	<i>Prerequisites: Basic knowledge of economics</i>							
851-0626-01 V	International Aid and Development			2 hrs	Tue	12-14	IFW A32.1	<b>K. Harttgen, I. Günther</b>
<b>860-0023-00L</b>	<b>International Environmental Politics</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
	<i>Particularly suitable for students of D-ITET, D-USYS</i>							
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3	<b>T. Bernauer</b>

### ►► Methodology Competences

#### ►►► Methods in Agricultural Economics

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0305-00L</b>	<b>Empirical Methods in Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
363-0305-00 G	Empirical Methods in Management <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Wed	14-16	HG E1.1	<b>S. Tillmanns</b>
<b>363-0585-00L</b>	<b>Intermediate Econometrics</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
363-0585-00 V	Intermediate Econometrics			2 hrs	Tue	14-16	LEE C114	<b>G. Masllorens Fuentes</b>
<b>751-0423-00L</b>	<b>Risk Analysis and Risk Management in Agriculture</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
751-0423-00 G	Risk Analysis and Risk Management in Agriculture			2 hrs	Thu	14-16	ML J34.3	<b>R. Finger</b>
<b>751-1573-00L</b>	<b>Dynamic Simulation in Agricultural and Regional Economics</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>				
751-1573-00 V	Dynamic Simulation in Agricultural and Regional Economics			2 hrs	Fri/1	08-12	HG D3.1	<b>B. Kopainsky</b>
<b>363-0541-00L</b>	<b>Systems Dynamics and Complexity</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
363-0541-00 G	Systems Dynamics and Complexity <i>Lecture: Thursday, 08-10 h</i> <i>Exercises: Tuesday, 12-13 h</i> <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Tue Thu	12-13 08-10	HG D1.2 HG D1.2	<b>F. Schweitzer</b>
<b>401-0647-00L</b>	<b>Introduction to Mathematical Optimization</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>				
401-0647-00 V	Introduction to Mathematical Optimization			2 hrs	Tue	16-18	HG F5	<b>D. Adjashvili</b>
401-0647-00 U	Introduction to Mathematical Optimization <i>Groups are selected in myStudies.</i> <i>Wed 12-13 or Wed 16-17</i>			1 hrs	Wed	12-13 16-17	HG D1.2 IFW A36 ON LINE	<b>D. Adjashvili</b>
<b>363-0565-00L</b>	<b>Principles of Macroeconomics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
363-0565-00 V	Principles of Macroeconomics <i>Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1.</i> <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Tue	16-18	ETA F5 ETF E1	<b>J.-E. Sturm</b>

### ►►► Project Management and Communication of Science

Number	Title	Type	ECTS	Hours				Lecturers
<b>751-5201-10L</b>	<b>Tropical Cropping Systems, Soils and Livelihoods</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>				
	<i>This course has been restructured due to Covid-19 restrictions, part I (2 CP) takes place in Autumn 2021, part II (3 CP) in Spring 2022, with an excursion/fieldwork. For more information, please contact the lecturer:</i> <i>kenza.benabderrazik@usys.ethz.ch</i>							
751-5201-10 G	Tropical Cropping Systems, Soils and Livelihoods <i>This has been restructured due to Covid-19 restrictions, the excursion/field work will take place in spring 2022. For more information, please contact the lecturer:</i> <i>kenza.benabderrazik@usys.ethz.ch</i>			2 hrs	Thu 23.09.	08-10 08-10	CHN G22 CHN E42	<b>J. Six, K. Benabderrazik</b>

### ► Professional Internship

Number	Title	Type	ECTS	Hours				Lecturers
<b>751-0210-00L</b>	<b>Professional Internship</b>	<b>O</b>	<b>30 credits</b>					
	<i>Only for MSc Agricultural Sciences</i>							

Diese LV beinhaltet das gesamte Berufspraktikum:

- Vorbereitung
- Praktikumsaufenthalt
- Nachbereitung und Präsentation

Der Agro-Tag II zur Präsentation des Berufspraktikums findet am Freitag 29.10.2021 vom 13.15 - 16.30 Uhr statt.

## ► Minors

## ►► Agricultural Economics and Policy

Number	Title	Type	ECTS	Hours				Lecturers	
751-2903-00L	Evaluation of Agricultural Policies	W	3 credits	2G					R. Huber, R. Finger, C. Schader
751-2903-00 G	Evaluation of Agricultural Policies			2 hrs	Thu	16-18	ML J34.3		
751-2205-00L	Management for Enterprises in the Agri-Food-Chain II	W	2 credits	2G					M. Weber
751-2205-00 G	Management for Enterprises in the Agri-Food-Chain II			2 hrs	Mon	08-10	NO C44		
751-2103-00L	Socioeconomics of Agriculture	W	2 credits	2V					S. Mann
751-2103-00 V	Socioeconomics of Agriculture			2 hrs	Tue	08-10	LFW B3		
751-1573-00L	Dynamic Simulation in Agricultural and Regional Economics	W	2 credits	2V					B. Kopainsky
751-1573-00 V	Dynamic Simulation in Agricultural and Regional Economics			2 hrs	Fri/1	08-12	HG D3.1		
751-0423-00L	Risk Analysis and Risk Management in Agriculture	W	3 credits	2G					R. Finger
751-0423-00 G	Risk Analysis and Risk Management in Agriculture			2 hrs	Thu	14-16	ML J34.3		
363-0305-00L	Empirical Methods in Management	W	3 credits	2G					S. Tillmanns
363-0305-00 G	Empirical Methods in Management <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Wed	14-16	HG E1.1		
851-0626-01L	International Aid and Development <i>Number of participants limited to 60</i>	W+	2 credits	2V					K. Harttgen, I. Günther
	<i>Prerequisites: Basic knowledge of economics</i>								
851-0626-01 V	International Aid and Development			2 hrs	Tue	12-14	IFW A32.1		

## ►► Agriculture and Environment

Number	Title	Type	ECTS	Hours					Lecturers
751-5101-00L	<b>Biogeochemistry and Sustainable Management</b>	W	2 credits	2G					W. Eugster, V. Klaus
751-5101-00 G	Biogeochemistry and Sustainable Management <i>Does not take place this semester.</i>			2 hrs					
751-3405-00L	<b>Chemical Nature of Nutrients and their Availability to Plants: The Case of Phosphorus</b> <i>Number of participants limited to 15. Priority will be given to students in Agricultural Sciences</i>	W	4 credits	4G					E. Frossard, L. P. Schönholzer, M. Wiggerhauser
751-3405-00 G	Chemical Nature of Nutrients and their Availability to Plants: The Case of Phosphorus <i>The lectures will spread over 13 Friday mornings in the autumn semester. The lecture will be organized in Eschikon, in the Group of Plant Nutrition at the Experimental station Eschikon, 8315 Eschikon-Lindau. The location of the experimental station Eschikon is given at <a href="http://www.ias.ethz.ch/researchstation/eschikon">http://www.ias.ethz.ch/researchstation/eschikon</a>.</i>			56s hrs					
751-5125-00L	<b>Stable Isotope Ecology of Terrestrial Ecosystems</b> <i>Number of participants limited to 20.</i>	W	2 credits	2G					R. A. Werner, N. Buchmann, A. Gessler, M. Lehmann
751-5125-00 G	Stable Isotope Ecology of Terrestrial Ecosystems ■ <i>This block course takes place on 14 January 2022 to 21 January 2022.</i>			2 hrs	14.01.- 21.01.	08-18	LFW B2		

## ►► Agronomy and Plant Breeding

Number	Title	Type	ECTS	Hours				Lecturers
751-4104-00L	Alternative Crops	W	2 credits	2V				A. Walter, K. Berger Bütler
751-4104-00 V	Alternative Crops			2 hrs	Wed	16-18	LFW C5	
751-3603-00L	Current Challenges in Plant Breeding <i>Number of participants limited to 15.</i>	W	2 credits	2G				

751-3603-00 G	Current Challenges in Plant Breeding <i>This course is composed by two parts: - a compulsory information event, in which the preparation and task assignment will take place from 14.00-17.00 on 5. November 2021. - a seminar, in which the group tasks will be presented, which takes place on 27. January 2022.</i>	2 hrs	05.11. 27.01.	14-17 08-18	n/a CAB G51	<b>B. Studer, A. Hund</b>
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	------------------	----------------	----------------	---------------------------

## ►► Crop Health

Number	Title	Type	ECTS	Hours	Lecturers	
<b>751-5121-00L</b>	<b>Insect Ecology</b> <i>The number of participants is limited to 30.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>		
751-5121-00 V	Insect Ecology			2 hrs	Tue	14-16 LFW B3 <b>C. De Moraes, M. Mescher, N. Stanczyk</b>
<b>751-4811-00L</b>	<b>Alien Organisms in Agriculture</b> <i>Number of participants limited to 30.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>		
751-4811-00 G	Alien Organisms in Agriculture			2 hrs	Tue	08-10 CAB G59 <b>J. Collatz, M. Meissle</b>
<b>701-0263-01L</b>	<b>Seminar in Evolutionary Ecology of Infectious Diseases</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
701-0263-01 G	Seminar in Evolutionary Ecology of Infectious Diseases			2 hrs	Tue	16-18 CHN F42 <b>R. R. Regös, S. Bonhoeffer</b>
<b>751-4506-00L</b>	<b>Plant Pathology III</b> <i>Number of participants limited to 20.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>		
751-4506-00 G	Pflanzenpathologie III			2 hrs	Tue	10-12 LFW E15 <b>M. Maurhofer Bringolf</b>

## ►► Data Science and Technology for Agricultural Science

Number	Title	Type	ECTS	Hours	Lecturers	
<b>701-3001-00L</b>	<b>Environmental Systems Data Science</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>		
701-3001-00 G	Environmental Systems Data Science			2 hrs	Tue	08-10 CHN D44 CHN D46 CHN F42 CHN G22 HG D1.1 21.09. 08-10 <b>L. Pellissier, J. Payne, B. Stocker</b>
<b>401-6215-00L</b>	<b>Using R for Data Analysis and Graphics (Part I)</b>	<b>W+</b>	<b>1.5 credits</b>	<b>1G</b>		
401-6215-00 G	Using R for Data Analysis and Graphics (Part I)			14s hrs	Tue/1	14-16 CAB G11 <b>M. Mächler</b>
<b>401-6217-00L</b>	<b>Using R for Data Analysis and Graphics (Part II)</b>	<b>W+</b>	<b>1.5 credits</b>	<b>1G</b>		
401-6217-00 G	Using R for Data Analysis and Graphics (Part II)			14s hrs	Tue/2	14-16 CAB G11 <b>M. Mächler</b>
<b>751-5510-00L</b>	<b>Introduction to Agricultural Robotics</b> <i>Number of participants limited to 20.</i>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>		
751-5510-00 G	Introduction to Agricultural Robotics <i>Students should preferably have basic knowledge of computer programming</i>			2 hrs	Mon	12-14 LFW C1 <b>S. Mintchev</b>
<b>701-0951-00L</b>	<b>GIS - Introduction into Geoinformation Science and Technology</b> <i>Number of participants limited to 50. Waiting list will be deleted October 8th, 2021.</i>	<b>W+</b>	<b>5 credits</b>	<b>2V+3P</b>		
701-0951-00 V	GIST - Einführung in die räumlichen Informationswissenschaften und -technologien <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich per ZOOM statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12 CHN E46 <b>M. A. M. Niederhuber</b>
701-0951-01 P	GIST - Einführung in die räumlichen Informationswissenschaften und -technologien <i>Für die Übungen müssen die Studierenden auf verschiedene Zeitfenster aufgeteilt werden. Zur Verfügung stehen: Dienstag 12 - 14 und Fr 14 - 16 Uhr. Bei Bedarf auch Mo 10 - 12. Eine Zuteilung wird in der ersten Semesterwoche durchgeführt. Übungsbetreuung im NO D39 wie auch ONLINE.</i>			3 hrs	Mon Tue Fri	10-12 12-14 14-16 NO D39 NO D39 NO D39 <b>M. A. M. Niederhuber</b>
<b>651-4031-00L</b>	<b>Geographic Information Systems</b> <i>Number of participants limited to 60.</i>	<b>W+</b>	<b>3 credits</b>	<b>4G</b>		
651-4031-00 G	Geographic Information Systems			4 hrs	Wed/2	08-12 HG E26.1 HG E26.3 <b>A. Baltensweiler, M. Hägeli-Golay</b>

## ►► Functioning of Soil Systems

Number	Title	Type	ECTS	Hours	Lecturers	
<b>751-5101-00L</b>	<b>Biogeochemistry and Sustainable Management</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>		
751-5101-00 G	Biogeochemistry and Sustainable Management <i>Does not take place this semester.</i>			2 hrs	W. Eugster, V. Klaus	
<b>751-5115-00L</b>	<b>Current Aspects of Nutrient Cycle in Agro-Ecosystems</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>		

751-5115-00 S	Current Aspects of Nutrient Cycle in Agro-Ecosystems (with Excursion) <i>Does not take place this semester.</i>		18s hrs						<b>E. Frossard</b>
<b>751-3405-00L</b>	<b>Chemical Nature of Nutrients and their Availability to Plants: The Case of Phosphorus</b> <i>Number of participants limited to 15. Priority will be given to students in Agricultural Sciences</i>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
751-3405-00 G	Chemical Nature of Nutrients and their Availability to Plants: The Case of Phosphorus <i>The lectures will spread over 13 Friday mornings in the autumn semester. The lecture will be organized in Eschikon, in the Group of Plant Nutrition at the Experimental station Eschikon, 8315 Eschikon-Lindau. The location of the experimental station Eschikon is given at <a href="http://www.ias.ethz.ch/researchstation/eschikon">http://www.ias.ethz.ch/researchstation/eschikon</a>.</i>		56s hrs						<b>E. Frossard,</b> L. P. Schönholzer, M. Wiggengerhauser
<b>751-5125-00L</b>	<b>Stable Isotope Ecology of Terrestrial Ecosystems</b> <i>Number of participants limited to 20.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-5125-00 G	Stable Isotope Ecology of Terrestrial Ecosystems <i>This block course takes place on 14 January 2022 to 21 January 2022.</i>		2 hrs		14.01.- 21.01.	08-18	LFW B2		<b>R. A. Werner,</b> N. Buchmann, A. Gessler, M. Lehmann
<b>701-0533-00L</b>	<b>Soil and Water Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-0533-00 G	Boden- und Wasserchemie		2 hrs		Wed	14-16	CHN F46		<b>R. Kretzschmar,</b> D. I. Christl, L. Winkel
<b>701-0535-00L</b>	<b>Environmental Soil Physics/Vadose Zone Hydrology</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>					
701-0535-00 V	Environmental Soil Physics/Vadose Zone Hydrology		2 hrs		Wed	16-18	CHN E46		<b>A. Carminati,</b> P. U. Lehmann Grunder
701-0535-00 U	Environmental Soil Physics/Vadose Zone Hydrology		1 hrs		Wed	18-19	CHN E46		<b>A. Carminati,</b> P. U. Lehmann Grunder
<b>701-1343-00L</b>	<b>Soil-Plant Water Relations</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>					
701-1343-00 V	Soil-Plant Water Relations		2 hrs		Fri	10-12	ML H41.1		<b>A. Carminati</b>
<b>751-5201-10L</b>	<b>Tropical Cropping Systems, Soils and Livelihoods</b> <i>This course has been restructured due to Covid-19 restrictions, part I (2 CP) takes place in Autumn 2021, part II (3 CP) in Spring 2022, with an excursion/fieldwork. For more information, please contact the lecturer: <a href="mailto:kenza.benabderrazik@usys.ethz.ch">kenza.benabderrazik@usys.ethz.ch</a></i>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
751-5201-10 G	Tropical Cropping Systems, Soils and Livelihoods <i>This has been restructured due to Covid-19 restrictions, the excursion/field work will take place in spring 2022. For more information, please contact the lecturer: <a href="mailto:kenza.benabderrazik@usys.ethz.ch">kenza.benabderrazik@usys.ethz.ch</a></i>		2 hrs		Thu 23.09.	08-10 08-10	CHN G22 CHN E42		<b>J. Six,</b> K. Benabderrazik

## ►► General Crop Science

Number	Title	Type	ECTS	Hours	Lecturers				
<b>751-4104-00L</b>	<b>Alternative Crops</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
751-4104-00 V	Alternative Crops		2 hrs		Wed	16-18	LFW C5		<b>A. Walter,</b> K. Berger Bütler
<b>751-3603-00L</b>	<b>Current Challenges in Plant Breeding</b> <i>Number of participants limited to 15.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-3603-00 G	Current Challenges in Plant Breeding <i>This course is composed by two parts: - a compulsory information event, in which the preparation and task assignment will take place from 14.00-17.00 on 5. November 2021. - a seminar, in which the group tasks will be presented, which takes place on 27. January 2022.</i>		2 hrs		05.11. 27.01.	14-17 08-18	n/a CAB G51		<b>B. Studer,</b> A. Hund
<b>751-5121-00L</b>	<b>Insect Ecology</b> <i>The number of participants is limited to 30.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
751-5121-00 V	Insect Ecology		2 hrs		Tue	14-16	LFW B3		<b>C. De Moraes,</b> M. Mescher, N. Stanczyk
<b>751-4811-00L</b>	<b>Alien Organisms in Agriculture</b> <i>Number of participants limited to 30.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-4811-00 G	Alien Organisms in Agriculture		2 hrs		Tue	08-10	CAB G59		<b>J. Collatz,</b> M. Meissle
<b>701-0263-01L</b>	<b>Seminar in Evolutionary Ecology of Infectious Diseases</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-0263-01 G	Seminar in Evolutionary Ecology of Infectious Diseases		2 hrs		Tue	16-18	CHN F42		<b>R. R. Regös,</b> S. Bonhoeffer
<b>751-5101-00L</b>	<b>Biogeochemistry and Sustainable Management</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-5101-00 G	Biogeochemistry and Sustainable Management <i>Does not take place this semester.</i>		2 hrs						W. Eugster, V. Klaus
<b>751-3405-00L</b>	<b>Chemical Nature of Nutrients and their</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					

**Availability to Plants: The Case of Phosphorus**

Number of participants limited to 15.

Priority will be given to students in

Agricultural Sciences

751-3405-00 G	Chemical Nature of Nutrients and their Availability to Plants: The Case of Phosphorus <i>The lectures will spread over 13 Friday mornings in the autumn semester. The lecture will be organized in Eschikon, in the Group of Plant Nutrition at the Experimental station Eschikon, 8315 Eschikon-Lindau. The location of the experimental station Eschikon is given at <a href="http://www.ias.ethz.ch/researchstation/eschikon">http://www.ias.ethz.ch/researchstation/eschikon</a>.</i>	56s hrs							<b>E. Frossard,</b> L. P. Schönholzer, M. Wiggerhauser
<b>751-5125-00L</b>	<b>Stable Isotope Ecology of Terrestrial Ecosystems</b> <i>Number of participants limited to 20.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-5125-00 G	Stable Isotope Ecology of Terrestrial Ecosystems ■ <i>This block course takes place on 14 January 2022 to 21 January 2022.</i>			2 hrs	14.01.- 21.01.	08-18	LFW B2		<b>R. A. Werner,</b> N. Buchmann, A. Gessler, M. Lehmann
<b>751-5115-00L</b>	<b>Current Aspects of Nutrient Cycle in Agro-Ecosystems</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>					
751-5115-00 S	Current Aspects of Nutrient Cycle in Agro-Ecosystems (with Excursion) <i>Does not take place this semester.</i>			18s hrs					<b>E. Frossard</b>
<b>751-4003-01L</b>	<b>Current Topics in Grassland Sciences (HS)</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
751-4003-01 S	Current Topics in Grassland Sciences <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Mon	16-18	LFW C1		<b>A. K. Gilgen</b>
<b>751-4506-00L</b>	<b>Plant Pathology III</b> <i>Number of participants limited to 20.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-4506-00 G	Pflanzenpathologie III			2 hrs	Tue	10-12	LFW E15		<b>M. Maurhofer Bringolf</b>
<b>751-5510-00L</b>	<b>Introduction to Agricultural Robotics</b> <i>Number of participants limited to 20.</i>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
751-5510-00 G	Introduction to Agricultural Robotics <i>Students should preferably have basic knowledge of computer programming</i>			2 hrs	Mon	12-14	LFW C1		<b>S. Mintchev</b>

►► **Non-Ruminant Science**

Number	Title	Type	ECTS	Hours	Lecturers				
<b>751-6601-00L</b>	<b>Pig Science (HS)</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
751-6601-00 V	Pig Science (HS) <i>Does not take place this semester.</i>			2 hrs					to be announced
<b>751-6243-00L</b>	<b>Breeding and conservation of Animal Genetic Resources</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
751-6243-00 V	Züchtung und Erhaltung tiergenetischer Ressourcen <i>Die Lehrveranstaltung besteht aus regelmässigen LV in der ersten Semesterhälfte und aus einem Blockkurs am 25.-26. Januar 2022.</i>			2 hrs	Mon/1 25.01. 26.01.	14-16 08-18 08-18	NO E39 CHN F42 CHN F42		<b>H. Signer-Hasler,</b> C. Flury, S. Neuenschwander
<b>751-6001-00L</b>	<b>Forum: Livestock in the World Food System</b> <i>Number of participants limited to 20.</i>	<b>W</b>	<b>2 credits</b>	<b>1S</b>					
751-6001-00 S	Forum: Livestock in the World Food System <i>Durchführung gemäss speziellem Programm.</i>			1 hrs	Wed	08-10	LFW C1		<b>S. Meese</b>
<b>751-6127-00L</b>	<b>Practical Course in Microscopy of Functional Histology</b>	<b>W</b>	<b>3 credits</b>	<b>6P</b>					
751-6127-00 P	Practical Course in Microscopy of Functional Histology <i>Does not take place this semester.</i>			90s hrs					not available

►► **Principles of Livestock Systems**

Number	Title	Type	ECTS	Hours	Lecturers				
<b>751-6243-00L</b>	<b>Breeding and conservation of Animal Genetic Resources</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
751-6243-00 V	Züchtung und Erhaltung tiergenetischer Ressourcen <i>Die Lehrveranstaltung besteht aus regelmässigen LV in der ersten Semesterhälfte und aus einem Blockkurs am 25.-26. Januar 2022.</i>			2 hrs	Mon/1 25.01. 26.01.	14-16 08-18 08-18	NO E39 CHN F42 CHN F42		<b>H. Signer-Hasler,</b> C. Flury, S. Neuenschwander
<b>751-6127-00L</b>	<b>Practical Course in Microscopy of Functional Histology</b>	<b>W</b>	<b>3 credits</b>	<b>6P</b>					
751-6127-00 P	Practical Course in Microscopy of Functional Histology <i>Does not take place this semester.</i>			90s hrs					not available
<b>751-6129-00L</b>	<b>Practical Course Epigenetics</b>	<b>W</b>	<b>3 credits</b>	<b>6P</b>					
751-6129-00 P	Practical Course Epigenetics <i>Does not take place this semester.</i>			90s hrs					not available
<b>751-6305-00L</b>	<b>Livestock Breeding and Genomics</b>	<b>W+</b>	<b>3 credits</b>	<b>3G</b>					



751-6305-00 G	Livestock Breeding and Genomics			3 hrs	Fri	09-12	LFW C11	<b>P. von Rohr</b>
<b>751-6113-00L</b>	<b>Endocrinology and Biology of Reproduction</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
751-6113-00 G	Endocrinology and Biology of Reproduction			2 hrs	Thu	12-14	LFW C11	<b>S. E. Ulbrich,</b> S. M. Bernal Ulloa

## ►► Ruminant Science

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-6501-00L</b>	<b>Ruminant Science (HS)</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
751-6501-00 G	Ruminant Science			4 hrs	Wed	10-12 14-16	LFW C11 LFW C11		<b>K. Giller,</b> M. Terranova, U. Witschi
<b>751-7211-00L</b>	<b>Ruminal Digestion</b>	<b>W</b>	<b>1 credit</b>	<b>1G</b>					
751-7211-00 G	Ruminal Digestion <i>Does not take place this semester. Diese LV wird im HS21 nicht als Einzelveranstaltung angeboten - die Inhalte sind jedoch Teil von 751-6501-00 Ruminant Sciences.</i>			1 hrs					not available
<b>751-6001-00L</b>	<b>Forum: Livestock in the World Food System</b> <i>Number of participants limited to 20.</i>	<b>W</b>	<b>2 credits</b>	<b>1S</b>					
751-6001-00 S	Forum: Livestock in the World Food System <i>Durchführung gemäss speziellem Programm.</i>			1 hrs	Wed	08-10	LFW C1		<b>S. Meese</b>
<b>751-6243-00L</b>	<b>Breeding and conservation of Animal Genetic Resources</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
751-6243-00 V	Züchtung und Erhaltung tiergenetischer Ressourcen <i>Die Lehrveranstaltung besteht aus regelmässigen LV in der ersten Semesterhälfte und aus einem Blockkurs am 25.-26. Januar 2022.</i>			2 hrs	Mon/1 25.01. 26.01.	14-16 08-18 08-18	NO E39 CHN F42 CHN F42		<b>H. Signer-Hasler,</b> C. Flury, S. Neuenschwander

## ►► Safety and Quality in Agri-Food Chain

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-6001-00L</b>	<b>Forum: Livestock in the World Food System</b> <i>Number of participants limited to 20.</i>	<b>W</b>	<b>2 credits</b>	<b>1S</b>					
751-6001-00 S	Forum: Livestock in the World Food System <i>Durchführung gemäss speziellem Programm.</i>			1 hrs	Wed	08-10	LFW C1		<b>S. Meese</b>
<b>752-2122-00L</b>	<b>Food and Consumer Behaviour</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
752-2122-00 V	Food and Consumer Behaviour <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	10-12	LFW B1		<b>M. Siegrist,</b> C. Hartmann
<b>752-5111-00L</b>	<b>Gene Technology in Foods</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-5111-00 V	Gene Technology in Foods <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	16-18	LFV E41		<b>F. Constancias,</b> G. Broggini, A. Greppi, F. Orelli
<b>752-2307-00L</b>	<b>Nutritional Aspects of Food Composition and Processing</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-2307-00 V	Nutritional Aspects of Food Composition and Processing			2 hrs	Wed	08-10	LFW C5		<b>B. E. Baumer,</b> J. M. Sych
<b>751-7310-00L</b>	<b>Bioactive Food and Feed Components</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>					
751-7310-00 V	Bioactive Food and Feed Components <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Tue	08-10	LFW C11		<b>K. Giller</b>

## ►► Transdisciplinarity for Sustainable Development

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1551-00L</b>	<b>Sustainability Assessment</b> <i>Number of participants limited to 35.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>Waiting list will be deleted October 1st, 2021.</i>								
	<i>No enrollment possible after October 1st, 2021.</i>								
701-1551-00 G	Sustainability Assessment			2 hrs	Fri	10-12	CHN G42		<b>P. Krütli,</b> D. Nef

## ► Electives Courses

*Elective courses can be chosen from the entire course programme of the ETH Zurich as well as from the course programme of the University of Zurich.*

Number	Title	Type	ECTS	Hours					Lecturers
Course Catalogue of ETH Zurich									
701-3001-00L	Environmental Systems Data Science	W+	3 credits	2G					
701-3001-00 G	Environmental Systems Data Science			2 hrs	Tue	08-10	CHN D44 CHN D46 CHN F42 CHN G22 HG D1.1		L. Pellissier, J. Payne, B. Stocker
					21.09.	08-10			

<b>751-5510-00L</b>	<b>Introduction to Agricultural Robotics</b> <i>Number of participants limited to 20.</i>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
751-5510-00 G	Introduction to Agricultural Robotics <i>Students should preferably have basic knowledge of computer programming</i>			2 hrs	Mon	12-14	LFW C1	<b>S. Mintchev</b>	
<b>751-5005-00L</b>	<b>Agroecology and the Transition to Sustainable Food Systems</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
751-5005-00 G	Agroecology and the Transition to Sustainable Food Systems <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	18-19 19-20	CHN C14 CHN E42 CHN E46	<b>M. Sonneveld</b> , M. Grant, S. E. Ulbrich, B. Wehrli	
<b>701-0903-00L</b>	<b>The Sustainable Development Goals Book Club</b>	<b>W+</b>	<b>2 credits</b>						
701-0903-00 K	The Sustainable Development Goals Book Club <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2s hrs	Thu	18-20	CHN E46	<b>B. B. Pearce</b> , J. Ghazoul	

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers				
<b>751-1030-00L</b>	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>	<b>O</b>	<b>30 credits</b>	<b>64D</b>					
751-1030-00 D	Master-Arbeit ■ <i>Permission from lecturers required for all students</i>			900s hrs	Lecturers				

## Agroecosystem Sciences Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Applied Geophysics Master

*Courses at ETH Zurich only take place in Spring Semester.*

## Applied Geophysics Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■          Special students and auditors need special permission from the lecturers.

# Architecture Bachelor

## ► First Year Examinations

### ►► Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>052-0603-00L</b>	<b>Structural Design I</b>	<b>O</b>	<b>2 credits</b>	<b>3G</b>				
052-0603-00 G	Tragwerksentwurf I <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16./23.12. (vor Schlussabgaben). Die Vorlesung wird zweisprachig (Deutsch/Englisch) gehalten.</i>			3 hrs	Thu	13-16	HCI G3	<b>P. Block</b> , J. Schwartz
<b>052-0703-00L</b>	<b>Sociology I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
052-0703-00 V	Soziologie I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben). ONLINE: Diese Lehrveranstaltung wird hauptsächlich online angeboten. Der reservierte Raum steht den Studierenden jedoch zur Verfügung, um das Seminar von dort aus zu verfolgen.</i>			2 hrs	Fri 29.09.	10-12 15-16	HIL E1 HIL E7	<b>C. Schmid</b> , I. Apostol, N. Bathla, A. Hertzog-Fraser
<b>052-0901-00L</b>	<b>Building History I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
052-0901-00 V	Baugeschichte I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).</i>			2 hrs	Fri	08-10	HIL E4	<b>S. Holzer</b>

### ►► Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>052-0803-00L</b>	<b>History and Theory of Architecture I</b>	<b>O</b>	<b>2 credits</b>	<b>2V+2U</b>				
052-0803-00 V	Architekturgeschichte und -theorie I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).</i>			2 hrs	Fri	14-16	HIL E4	<b>M. Delbeke</b>
052-0803-00 U	Grundlagen der Geschichte und Theorie der Architektur I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).</i>			2 hrs	Fri 01.10. 08.10. 15.10. 05.11. 03.12. 10.12.	16-18 16-17 15-18 16-18 16-18 16-18 16-18	HIL E4 HIL E6 HG E1.2 HIL E67 HIL E67 HIL E67 HIL E67	<b>T. Avermaete</b> , M. Delbeke, L. Stalder, H. Teerds, P. Ursprung
<b>052-0601-00L</b>	<b>Building Materials I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
052-0601-00 V	Baumaterialien I <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16./23.12. (vor Schlussabgaben).</i>			2 hrs	Thu	10-12	HIL E3	<b>J. Pauli</b>
<b>052-0701-00L</b>	<b>Urban Design I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
052-0701-00 V	Städtebau I <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 9. und 16.12. (vor Schlussabgaben).</i>			2 hrs	Thu	08-10	HPH G1	<b>M. Wagner</b>
<b>052-0605-00L</b>	<b>Mathematics and Programming I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
052-0605-00 V	Mathematisches Denken und Programmieren I <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16./23.12. (vor Schlussabgaben).</i>			2 hrs	Thu	16-18	HCI G7	<b>B. Dillenburger</b>

### ► Subjects with Semester Grade

Number	Title	Type	ECTS	Hours				Lecturers
<b>052-0501-00L</b>	<b>Design and Construction I</b> <i>Participation in the seminar week of the chair Deplazes (topic "Hybrid Modeling") from 25.-29.10.21, is mandatory! Project grading at semester end is based on the list of enrolments on 2.11.21 (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	<b>O</b>	<b>8 credits</b>	<b>4V+10G+2U</b>				
052-0501-00 V	Entwurf und Konstruktion I <i>Keine Lehrveranstaltung am 26.10. (Seminarwoche) sowie am 14./21.12. (vor Schlussabgaben).</i>			4 hrs	Tue	08-12	HIL E4	<b>A. Deplazes</b>
052-0501-00 G	Entwerfen und Konstruieren I			10 hrs	Mon  Tue	10-12 10-18 13-18	HPH G1 HIL G41 HIL G61 HIL G41 HIL G61	<b>A. Deplazes</b>
052-0501-00 U	Konstruktion BUK I <i>Keine Lehrveranstaltung am 20.9. (erster Semestertag) am 25.10. (Seminarwoche) sowie 13./20.12. (vor Schlussabgaben).</i>			2 hrs	Mon	08-10	HPH G1	<b>D. Mettler</b> , D. Studer
<b>052-0503-00L</b>	<b>Architecture and Art I</b> <i>Project grading at semester end is based on the list of enrolments on 2.11.21 (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	<b>O</b>	<b>8 credits</b>	<b>2V+6G+1U</b>				

052-0503-00 V	Architektur und Kunst I <i>Keine Lehrveranstaltung am 27.10. (Seminarwoche) sowie am 15./22. 12. (vor Schlussabgaben). Die Vorlesung findet online statt, sie kann von Studierenden aus dem Hörsaal verfolgt werden.</i>	2 hrs	Wed	08-10	ONA E7	<b>K. Sander</b> , T. Becker, E. Vonplon
052-0503-00 G	Architektur und Kunst I <i>Keine Lehrveranstaltung am 27.10. (Seminarwoche) sowie am 15./22. 12. (vor Schlussabgaben). Die Zeichen-Übung wird online abgehalten, die Gruppen-Übungen erfolgen in Präsenz.</i>	6 hrs	Wed	11-18  12-18	HCI E380 HIL B18.2 HIL E48 ONA E16 ONA E7 HCP E47.1 HCP E47.4 HIL E1 HIT J53 HPL D32 HPL D34 ONA E7	<b>K. Sander</b>          <b>H. E. Franzen</b>
052-0503-00 U	Einführung in perspektivisches Zeichnen / freies Zeichnen <i>Keine Lehrveranstaltung am 27.10. (Seminarwoche) sowie am 15./22. 12. (vor Schlussabgaben).</i>	1 hrs	Wed	10-11	ONA E7	<b>H. E. Franzen</b>

## ► Examination Blocks

### ►► Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>052-0607-00L</b>	<b>Structural Design III</b>	<b>O</b>	<b>2 credits</b>	<b>3G</b>				
052-0607-00 G	Tragwerksentwurf III <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).</i>			3 hrs	Fri 08.10.	13-16 13-16	HIL E3 HCP E47.4 n/a	<b>J. Schwartz</b> , P. Block
<b>052-0805-00L</b>	<b>History and Theory in Architecture III</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
052-0805-00 V	Geschichte und Theorie der Architektur III <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16./23.12. (vor Schlussabgaben). Im Anschluss an die Lehrveranstaltung wird ein Tutoring (15-16 Uhr) in Raum HIL E4 angeboten.</i>			2 hrs	Thu	13-15 14-15	HIL E4 HIL C10.2 HIL D60.1	<b>L. Stalder</b>
<b>052-0635-00L</b>	<b>Mathematical Thinking and Programming III</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
052-0635-00 V	Mathematical Thinking and Programming III <i>No course on 29.10. (seminar week) and 17./24.12.(before final critics).</i>			2 hrs	Fri	10-12	HIL E4	<b>L. Hovestadt</b>
<i>Teaching Languages are English and German.</i>								

### ►► Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
151-8009-00L	Building Physics II	O	2 credits	2G				
151-8009-00 G	Building Physics II <i>No course on 25.10 (seminar week) as well as 13.12 and 20.12.2021 (before final critics).</i>			2 hrs	Mon	16-18	HIL E1	J. Carmeliet, M. Ettlin, A. Rubin
052-0801-00L	Global History of Urban Design I	O	2 credits	2G				
052-0801-00 G	Global History of Urban Design I <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	10-12	HIL E4	T. Avermaete
052-0707-00L	Urban Design III	O	2 credits	2V				
052-0707-00 V	Urban Design III <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	08-10	ONA E7	H. Klumpner, M. Fessel

### ►► Examination Block 3

Number	Title	Type	ECTS	Hours				Lecturers
<b>052-0807-00L</b>	<b>History and Theory of Architecture V</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
052-0807-00 V	Architekturgeschichte und -theorie V <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16./23.12. (vor Schlussabgaben).</i>			2 hrs	Thu	08-10	HIL E4	<b>P. Ursprung</b>
<b>052-0651-00L</b>	<b>Building Process I</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>				
052-0651-00 G	Bauprozess I <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 10. und 17.12. (vor Schlussabgaben).</i>			2 hrs	Thu	12-14	HCI G7	<b>A. Paulus</b>
<b>052-0705-00L</b>	<b>Landscape Architecture I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
052-0705-00 V	Landschaftsarchitektur I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).</i>			2 hrs	Fri	08-10	HIL E3	<b>D. Richter</b>
<b>052-0609-00L</b>	<b>Energy- and Climate Systems I</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>				
052-0609-00 G	Energie- und Klimasysteme I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).</i>			2 hrs	Fri	10-12	HIL E3	<b>A. Schlüter</b>
<b>052-0507-00L</b>	<b>Architectural Technology V</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				

052-0507-00 V Konstruktion V 2 hrs Mon 10-12 HIL E3 **K. Z. Weber, A. Thuy**  
*Keine Lehrveranstaltung am 25.10. (Seminarwoche) sowie am 13./20.12. (vor Schlussabgaben).*

*Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung von dort zu verfolgen.*

## ► Architectural Design

### ►► Architectural Design (3. Semester)

Number	Title	Type	ECTS	Hours				Lecturers
052-0541-21L	<b>Architectural Design III: Ideal Architecture, Storage (E.Christ/Ch.Gantenbein)</b> <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see <a href="http://www.einschreibung.arch.ethz.ch/design.php">http://www.einschreibung.arch.ethz.ch/design.php</a>). Students who do not wish to change the design class don't have to participate in the internal enrolment.</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	W	14 credits	2V+14U				
052-0505-00 V	Konstruktion III <i>Kurssprachen: Deutsch und Englisch. Keine Lehrveranstaltung am 27.10. (Seminarwoche) sowie am 15./22.12. (vor Schlussabgaben).</i>  <i>Eine Lehrveranstaltung der Professuren im 2. Jahr Bachelor Architektur.</i>			2 hrs	Wed	08-10	HIL E4	<b>J. De Vylder</b>
052-0505-00 U	Konstruktion BUK III <i>Keine Lehrveranstaltung am 26.10. (Seminarwoche) sowie am 14./21.12. (vor Schlussabgaben).</i>			2 hrs	Tue	08-10	HIL E3	<b>D. Mettler, D. Studer</b>
052-0541-21 U	Entwurf III: Ideale Architektur (E.Christ/Ch.Gantenbein) <i>Kein Unterricht am 26./27.10. (Seminarwoche).</i>			12 hrs	Tue Wed	10-17 10-17	HIL F41 HIL F41	<b>E. Christ, C. Gantenbein</b>
052-0543-21L	<b>Architectural Design III: House Behaviorology in Switzerland (Kaijima)</b> <i>Teaching languages are English and German.</i>  <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see <a href="http://www.einschreibung.arch.ethz.ch/design.php">http://www.einschreibung.arch.ethz.ch/design.php</a>). Students who do not wish to change the design class must not enrol.</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21 (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	W	14 credits	2V+14U				
052-0505-00 V	Konstruktion III <i>Kurssprachen: Deutsch und Englisch. Keine Lehrveranstaltung am 27.10. (Seminarwoche) sowie am 15./22.12. (vor Schlussabgaben).</i>  <i>Eine Lehrveranstaltung der Professuren im 2. Jahr Bachelor Architektur.</i>			2 hrs	Wed	08-10	HIL E4	<b>J. De Vylder</b>
052-0505-00 U	Konstruktion BUK III <i>Keine Lehrveranstaltung am 26.10. (Seminarwoche) sowie am 14./21.12. (vor Schlussabgaben).</i>			2 hrs	Tue	08-10	HIL E3	<b>D. Mettler, D. Studer</b>
052-0543-21 U	Architectural Design III: House Behaviorology in Switzerland (Kaijima) <i>No course on 26./27.10.21 (seminar week).</i>			12 hrs	Wed	08-18	ONA G27	<b>M. Kaijima</b>
052-0545-21L	<b>Architectural Design III: A Forest Bath (A.Spiro)</b> <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see <a href="http://www.einschreibung.arch.ethz.ch/design.php">http://www.einschreibung.arch.ethz.ch/design.php</a>). Students who do not wish to change the design class don't have to participate in the internal enrolment.</i>	W	14 credits	2V+14U				

Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only.  
This is also the ultimate deadline to unsubscribe or enroll for the studio.

052-0505-00 V Konstruktion III 2 hrs Wed 08-10 HIL E4 J. De Vylder  
Kursprachen: Deutsch und Englisch.  
Keine Lehrveranstaltung am 27.10. (Seminarwoche) sowie am 15./22.12. (vor Schlussabgaben).

Eine Lehrveranstaltung der Professuren im 2. Jahr Bachelor Architektur.

052-0505-00 U Konstruktion BUK III 2 hrs Tue 08-10 HIL E3 D. Mettler, D. Studer  
Keine Lehrveranstaltung am 26.10. (Seminarwoche) sowie am 14./21.12. (vor Schlussabgaben).

052-0545-21 U Entwurf III: Ein Waldbad (A.Spiro) 12 hrs Tue 10-17 HIL F61 A. Spiro  
Kein Entwurfsunterricht am 26./27.10. (Seminarwoche).  
Einführung und Zwischenbesprechung: Erster Kurstag

052-0547-21L Architectural Design III: 333% - (P)re-Zu-rich (J. De Vylder) W 14 credits 2V+14U  
Teaching languages are English and German.

Please register ([www.mystudies.ethz.ch](http://www.mystudies.ethz.ch)) only after the internal enrolment for the design classes (see <http://www.einschreibung.arch.ethz.ch/design.php>).  
Students who do not wish to change the design class must not enrol.

Project grading at semester end is based on the list of enrolments on 2.11.21 (valuation date) only.  
This is the ultimate deadline to unsubscribe or enroll for the studio.

052-0505-00 V Konstruktion III 2 hrs Wed 08-10 HIL E4 J. De Vylder  
Kursprachen: Deutsch und Englisch.  
Keine Lehrveranstaltung am 27.10. (Seminarwoche) sowie am 15./22.12. (vor Schlussabgaben).

Eine Lehrveranstaltung der Professuren im 2. Jahr Bachelor Architektur.

052-0505-00 U Konstruktion BUK III 2 hrs Tue 08-10 HIL E3 D. Mettler, D. Studer  
Keine Lehrveranstaltung am 26.10. (Seminarwoche) sowie am 14./21.12. (vor Schlussabgaben).

052-0547-21 U Architectural Design III: 333% - (P)re-Zu-rich (J. De Vylder) 12 hrs Tue 10-18 HIL F41 J. De Vylder  
No course 26./27.10. (seminar week).  
Teaching languages are English and German.

## ►► Architectural Design (from 5. Semester on)

Number	Title	Type	ECTS	Hours	Lecturers
052-1101-21L	<b>Architectural Design V-IX: Falera Village - Attempts after the Community of Fate (A. Caminada)</b> Please register ( <a href="http://www.mystudies.ethz.ch">www.mystudies.ethz.ch</a> ) only after the internal enrolment for the design classes (see <a href="http://www.einschreibung.arch.ethz.ch/design.php">http://www.einschreibung.arch.ethz.ch/design.php</a> ).  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	W	14 credits	16U	
052-1101-21 U	Entwurf V-IX: Falera, Dorf – Versuche nach der Schicksalsgemeinschaft (G.Caminada) ■ Permission from lecturers required for all students Kein Unterricht am 26./27.10. (Seminarwoche).			16 hrs Tue 10-18 Wed 08-18	AGS E2 AGS E2 G. A. Caminada
052-1103-21L	<b>Architectural Design V-IX: Small Institutions (GD R. Tudó)</b> Please register ( <a href="http://www.mystudies.ethz.ch">www.mystudies.ethz.ch</a> ) only after the internal enrolment for the design classes (see <a href="http://www.einschreibung.arch.ethz.ch/design.php">http://www.einschreibung.arch.ethz.ch/design.php</a> ).  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	W	14 credits	16U	

052-1103-21 U	Architectural Design V-IX: Small Institutions (GD R. Tudó) ■ Permission from lecturers required for all students No course on 26./27.10.2021.		16 hrs	Tue Wed	10-18 08-18	HIL F61 HIL F61	R. Tudó Gali
<b>052-1105-21L</b>	<b>Architectural Design V-IX: (N.N.)</b> Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	<b>W</b>	<b>14 credits</b>	<b>16U</b>			
052-1105-21 U	Architectural Design V-IX: (N.N.) ■ Does not take place this semester. Permission from lecturers required for all students		16 hrs				not available
<b>052-1107-21L</b>	<b>Architectural Design V-IX: Amplitude (Guestprof. M. Voser)</b> Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	<b>W</b>	<b>14 credits</b>	<b>16U</b>			
052-1107-21 U	Entwurf V-IX: Thema (Gastprof. M. Voser) ■ Permission from lecturers required for all students Kein Unterricht am 26./27.10. (Seminarwoche).		16 hrs	Tue Wed	10-18 08-18	HIL G61 HIL G61	M. Voser
<b>052-1109-21L</b>	<b>Architectural Design V-IX: Meteora 05 - Engenderings (L. Hovestadt)</b> Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	<b>W</b>	<b>14 credits</b>	<b>16U</b>			
052-1109-21 U	Architectural Design V-IX: Meteora 05 - Engenderings (L. Hovestadt) No course on 26./27.10. (seminar week).		16 hrs	Tue Wed	10-18 08-18	HIB E15 HIB E15	L. Hovestadt
<b>052-1113-21L</b>	<b>Architectural Design V-IX: Borderline(s) Investigation #6 Visibility (A. Theriot)</b> Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	<b>W</b>	<b>14 credits</b>	<b>16U</b>			
052-1113-21 U	Architectural Design V-IX: Topic (A. Theriot) ■ Permission from lecturers required for all students No course on 26./27.10. (seminar week).		16 hrs	Tue Wed	10-18 08-18	HIL D15 HIL E65 HIL D15 HIL E65	A. Theriot
<b>052-1115-21L</b>	<b>Architectural Design V-IX: Groundworks (T. Emerson)</b> Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	<b>W</b>	<b>14 credits</b>	<b>16U</b>			



052-1115-21 U	Architectural Design V-IX: Topic (T. Emerson) ■ <i>Permission from lecturers required for all students</i> <i>No course on 26./27.10. (seminar week).</i>	16 hrs	Tue Wed	10-18 08-18	HIL F61 HIL F61	<b>T. Emerson</b>
<b>052-1117-21L</b>	<b>Architectural Design V-IX: What Counts? W – Metabolism II (A.Gigon)</b> <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio</i>	<b>14 credits</b>			<b>16U</b>	
052-1117-21 U	Entwurf V-IX: Was zählt? Stoff-Wechsel II (A.Gigon) ■ <i>No course on 26./27.10. (seminar week).</i>	16 hrs	Tue Wed	10-18 08-18	HIL D15 HIL D15	<b>A. Gigon</b>
<b>052-1119-21L</b>	<b>Architectural Design V-IX: Before the Collapse - Architecting (Eco)Systems (A. Brandlhuber)</b> <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	<b>W</b>			<b>14 credits</b>	<b>16U</b>
052-1119-21 U	Architectural Design V-IX: Before the Collapse - Architecting (Eco)Systems (A. Brandlhuber) ■ <i>Permission from lecturers required for all students</i> <i>Teaching languages are English and German.</i> <i>No course on 26./27.10. (seminar week).</i>	16 hrs	Tue Wed	10-18 08-18	HIL F61 HIL F61	<b>A. Brandlhuber</b>
<b>052-1121-21L</b>	<b>Architectural Design V-IX: Studio Seebach - Sensing Space (F.Persyn)</b> <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	<b>W</b>			<b>14 credits</b>	<b>16U</b>
052-1121-21 U	Architectural Design V-IX: Studio Seebach - Sensing Space (F.Persyn) ■ <i>No course on 26./27.10. (seminar week).</i>	16 hrs	Tue Wed	10-18 08-18	ONA E25 ONA E25	<b>F. Persyn</b>
<b>052-1123-21L</b>	<b>Architectural Design V-IX: Circular. From Material to Location (GD Boltshauser)</b> <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	<b>W</b>			<b>14 credits</b>	<b>16U</b>
052-1123-21 U	Architectural Design V-IX: Zirkulär. Vom Material zum Ort (GD Boltshauser) ■ <i>Permission from lecturers required for all students</i> <i>Keine Lehrveranstaltung am 26./27.10. (Seminarwoche).</i>	16 hrs	Tue Wed	10-18 08-18	HIL C40.1 HIL C40.1	<b>R. Boltshauser</b>
<b>052-1125-21L</b>	<b>Architectural Design V-IX: Elemental Living (E. Mosayebi)</b> <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	<b>W</b>			<b>14 credits</b>	<b>16U</b>

052-1125-21 U	Entwurf V-IX: Einfach Wohnen (E. Mosayebi) ■ <i>Permission from lecturers required for all students No course on 26./27.10. (seminar week).</i>	16 hrs	Tue Wed 22.09. 05.10. 12.10.	10-18 08-18 10-12 14-16 17-19 17-19	HIL F75 HIL F75 HIT H42 HIL E7 HIL E9 HIL E9	<b>E. Mosayebi</b>
<b>052-1127-21L</b>	<b>Architectural Design V-IX: (Giro)</b> W <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	<b>14 credits</b>	<b>16U</b>			
052-1127-21 U	Architectural Design V-IX: (Giro) ■ <i>Does not take place this semester.</i>	16 hrs				not available
<b>052-1129-21L</b>	<b>Architectural Design V-IX: Structure and Space - Negotiation on the Inventory (GD C.Menn)</b> W <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	<b>14 credits</b>	<b>16U</b>			
052-1129-21 U	Entwurf V-IX: Struktur und Raum - Verhandlung am Bestand (GD C. Menn) ■ <i>Permission from lecturers required for all students Kein Unterricht am 26./27.10. (Seminarwoche).</i>	16 hrs	Tue Wed	10-18 08-18	HIL F61 HIL F61	<b>C. Menn</b>
<b>052-1131-21L</b>	<b>Architectural Design V-IX: Trust – Building Values (Prof. A. Fonteyne)</b> W <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	<b>14 credits</b>	<b>16U</b>			
052-1131-21 U	Architectural Design V-IX: Trust – Building Values (Prof. A. Fonteyne) ■ <i>Permission from lecturers required for all students No course on 26./27.10. (seminar week).</i>	16 hrs	Tue Wed	10-18 08-18	ONA G23 ONA G23	<b>A. Fonteyne</b>
<b>052-1133-21L</b>	<b>Architectural Design V-IX: Change: Towards Hydroscopic Design(A. Holtrop)</b> W <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	<b>14 credits</b>	<b>16U</b>			
052-1133-21 U	Architectural Design V-IX: Change: Towards Hydroscopic Design(A. Holtrop) ■ <i>Permission from lecturers required for all students No course on 26./27.10. (seminar week).</i>	16 hrs	Tue Wed	10-18 08-18	HIQ C11 HIQ C11	<b>A. Holtrop</b>
<b>052-1135-21L</b>	<b>Architectural Design V-IX: Hortus (GD A. Deuber.)</b> W <i>Please register (www.mystudies.ethz.ch) only after the internal enrolment for the design classes (see http://www.einschreibung.arch.ethz.ch/desi gn.php).</i>  <i>Project grading at semester end is based</i>	<b>14 credits</b>	<b>16U</b>			

on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.

052-1135-21 U Entwurf V-IX: Hortus (GD A. Deuber) ■ 16 hrs Tue 10-18 HIR C1  
Keine Lehrveranstaltung am 26./27.10. (Seminarwoche). Wed 08-18 HIR C1 **A. Deuber**

**052-1137-21L Architectural Design V-IX: Story II - Unuseless Spaces (GD M. Conen) W 14 credits 16U**  
Please register ([www.mystudies.ethz.ch](http://www.mystudies.ethz.ch)) only after the internal enrolment for the design classes (see <http://www.einschreibung.arch.ethz.ch/desi gn.php>).

Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.

052-1137-21 U Entwurf V-IX: Thema (GD M. Conen) ■ 16 hrs Tue 10-18 HIL D15  
Permission from lecturers required for all students Wed 08-18 HIL D15 **M. Conen**  
Kein Unterricht am 26./27.10. (Seminarwoche)

**052-1139-21L Architectural Design V-IX: Climate Corridors Sarajevo W 14 credits 16U**  
Please register ([www.mystudies.ethz.ch](http://www.mystudies.ethz.ch)) only after the internal enrolment for the design classes (see <http://www.einschreibung.arch.ethz.ch/desi gn.php>).  
Teaching Languages: English and German

Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.

052-1139-21 U Architectural Design V-IX: Climate Corridors Sarajevo (H. Klumpner) ■ 16 hrs Tue 09-18 ONA E16  
Permission from lecturers required for all students Wed 10-18 ONA E25  
Teaching Languages: English and German. 08-18 ONA E25 **H. Klumpner**  
No course on 26./27.10. (seminar week).

**052-1141-21L Architectural Design V-IX: Interim, Forever (A.Caruso) W 14 credits 16U**  
Please register ([www.mystudies.ethz.ch](http://www.mystudies.ethz.ch)) only after the internal enrolment for the design classes (see <http://www.einschreibung.arch.ethz.ch/desi gn.php>).

Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.

052-1141-21 U Architectural Design V-IX: Interim, Forever (A.Caruso) ■ 16 hrs Tue 10-18 ONA E25  
No course on 26./27.10. (seminar week). Wed 08-18 ONA E25 **A. Caruso**

**052-1143-21L Architectural Design V-IX: Topic (GD N.N.) W 14 credits 16U**  
Please register ([www.mystudies.ethz.ch](http://www.mystudies.ethz.ch)) only after the internal enrolment for the design classes (see <http://www.einschreibung.arch.ethz.ch/desi gn.php>).

Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.

052-1143-21 U Entwurf V-IX: Thema (GD N.N.) 16 hrs  
Does not take place this semester. not available  
No course on 26./27.10. (seminar week).

**052-1145-21L Architectural Design V-IX: Voluptas S1E7 Repetition/Difference (F.Charbonnet/P.Heiz) W 14 credits 16U**  
Please register ([www.mystudies.ethz.ch](http://www.mystudies.ethz.ch)) only after the internal enrolment for the design classes (see <http://www.einschreibung.arch.ethz.ch/desi gn.php>).

Project grading at semester end is based

on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.

052-1145-21 U	Architectural Design V-IX: Voluptas S1E7 Repetition/Difference (F.Charbonnet/P.Heiz) ■ Permission from lecturers required for all students No course on 26./27.10. (seminar week). The studio will take place in room HIL G75 (Tuesday 8-18 h; Wednesday 10-18 h).	16 hrs	Tue Wed	10-18 08-18	HIL G61 HIL G61	<b>F. Charbonnet, P. Heiz</b>
<b>052-1147-21L</b>	<b>NOTHING BUT FLOWERS - Nature and Territory in Zurich</b> Please register ( <a href="http://www.mystudies.ethz.ch">www.mystudies.ethz.ch</a> ) only after the internal enrolment for the design classes (see <a href="http://www.einschreibung.arch.ethz.ch/desiggn.php">http://www.einschreibung.arch.ethz.ch/desiggn.php</a> ).  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	<b>W</b>	<b>14 credits</b>	<b>16U</b>		
052-1147-21 U	Architectural Design V-IX: Nothing but Flowers - Nature and Territory in Zurich (M.Topalovic) ■ Permission from lecturers required for all students No course on 26./27.10. (seminar week).	16 hrs	Tue Wed	10-18 08-18	ONA G35 ONA G35	<b>M. Topalovic</b>
<b>052-1151-21L</b>	<b>Architectural Design V-IX: Re-Use "selon arrivage" (GD B. Buser)</b> Please register ( <a href="http://www.mystudies.ethz.ch">www.mystudies.ethz.ch</a> ) only after the internal enrolment for the design classes (see <a href="http://www.einschreibung.arch.ethz.ch/desiggn.php">http://www.einschreibung.arch.ethz.ch/desiggn.php</a> ). Teaching Language is German and English.  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	<b>W</b>	<b>14 credits</b>	<b>16U</b>		
052-1151-21 U	Entwurf V-IX: Wiederverwendung "selon arrivage" (GD B. Buser) Keine Lehrveranstaltung 26./27.10. (Seminarwoche).	16 hrs	Tue Wed	10-18 08-18	HIP C11 HIP C11	<b>B. Buser</b>
<b>052-1181-21L</b>	<b>Architectural Design V-IX: A House for 10'000 People (Ch. Kerez)</b> Please register ( <a href="http://www.mystudies.ethz.ch">www.mystudies.ethz.ch</a> ) only after the internal enrolment for the design classes (see <a href="http://www.einschreibung.arch.ethz.ch/desiggn.php">http://www.einschreibung.arch.ethz.ch/desiggn.php</a> ).  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	<b>W</b>	<b>14 credits</b>	<b>16U</b>		
052-1181-21 U	Architectural Design V-IX: A House for 10'000 People (Ch. Kerez) ■ Permission from lecturers required for all students Kein Unterricht am 26./27.10. (Seminarwoche).	16 hrs	Tue Wed	10-18 08-18	HIL D15 HIL D15	<b>C. Kerez</b>
<b>052-1111-21L</b>	<b>Architectural Design V-IX: Informal Learning Spaces (M. Kaijima / F. Persyn)</b> Please register ( <a href="http://www.mystudies.ethz.ch">www.mystudies.ethz.ch</a> ) only after the internal enrolment for the design classes (see <a href="http://www.einschreibung.arch.ethz.ch/desiggn.php">http://www.einschreibung.arch.ethz.ch/desiggn.php</a> ).  Project grading at semester end is based on the list of enrolments on 2.11.21, 24:00 h (valuation date) only. This is the ultimate deadline to unsubscribe or enroll for the studio.	<b>W</b>	<b>14 credits</b>	<b>16U</b>		
052-1111-21 U	Architectural Design V-IX: Informal Learning Spaces (M. Kaijima / F. Persyn) No course 26./27.10.21 (seminar week).	16 hrs	Tue Wed	10-18 08-18	ONA E25 ONA E25	<b>M. Kaijima, F. Persyn</b>

## ► Electives and Focus Works

### ►► Electives

### ►►► Design and Architecture

Number	Title	Type	ECTS	Hours					Lecturers
<b>052-0511-00L</b>	<b>Planning Strategies for Complex Buildings Using the Example of Health Facilities (HS)</b> <i>This course (ends with «00L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
052-0511-00 V	Planungsstrategien für komplexe Gebäude am Beispiel Gesundheitsbauten (HS) ■ <i>Keine Lehrveranstaltung am 25.10.(Seminarwoche) sowie am 13./20.12. (vor Schlussabgaben).</i>			2 hrs	Mon	12-14	HIL E7		<b>T. Guthknecht</b>
<b>052-0513-00L</b>	<b>Spatial Concepts in Film and Architecture (HS)</b> <i>This course (ends with «00L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					
052-0513-00 V	Raumkonzepte in Film und Architektur (HS) <i>Findet 14-tägig statt (s. Kursdaten). Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16./23.12. (vor Schlussabgaben).</i>			1 hrs	Thu/2w	18-20	HIL E1		<b>M. Bächtiger Zwicky, A. Gigon</b>
<b>052-0521-00L</b>	<b>3D Scanning and Freeform Modeling (HS)</b> <i>Limited number of participants. Enrolment in agreement with the lecturer only (grueninger@arch.ethz.ch).</i>  <i>This course (ending with «00L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2U</b>					
052-0521-00 U	3D Scanning and Freeform Modeling (HS) <i>Permission from lecturers required for all students. Keine Lehrveranstaltung am 25.10. (Seminarwoche) sowie am 13./20.12. (vor Schlussabgaben).</i>			2 hrs	Mon	14-16	HIL E65		<b>A. Grüninger</b>
<b>052-0523-00L</b>	<b>360° - Reality to Virtuality (HS)</b> <i>This course (ending with «00L») can only be passed once! Please check this before signing up. The number of participants is limited. Registration for participation in the course is required. Please contact the assistant, Adam Kiryk: kiryk@arch.ethz.ch</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
052-0523-00 G	360° - Reality to Virtuality (HS) <i>Permission from lecturers required for all students. No course 25.10. (seminar week) as well as 13./20.12. (before final critiques).</i>			2 hrs	Mon	12-14	HIL E65		<b>K. Sander</b>
<b>052-0525-00L</b>	<b>Material-Workshop (HS)</b> <i>This course (ends with «00L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
052-0525-00 G	Material-Werkstatt (HS) ■ <i>Does not take place this semester.</i>			3 hrs					<b>A. Spiro</b>
<b>052-0535-00L</b>	<b>Model and Design (HS)</b> <i>Max. Teilnehmerzahl: 16. This course (ends with «00L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>3 credits</b>	<b>4U</b>					
052-0535-00 U	Modell und Gestaltung (HS) <i>Findet nicht statt am 28.10. (Seminarwoche) sowie in den letzten beiden Semesterwochen (Schlussabgaben). Unterrichtssprachen sind Deutsch und Englisch.</i>			4 hrs	Thu	16-20	HIL B48		<b>A. Tellini, K. Derleth</b>
<b>052-0537-00L</b>	<b>Free Drawing (HS)</b> <i>Number of participants limited to 35.</i>  <i>This course (ends with «00L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
052-0537-00 V	Freies Zeichnen (HS) ■ <i>Permission from lecturers required for all students. Keine Lehrveranstaltung am 25.10. (Seminarwoche) sowie am 13./20.12. (vor Schlussabgaben).</i>			2 hrs	Mon	16-18	HPT C103		<b>M. Léonard-Contant</b>
<b>052-0549-00L</b>	<b>Hybrid Modeling: 3D-Printing for the Architectural Design (HS)</b> <i>This course (ends with «00L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
052-0549-00 S	Hybrider Modellbau: 3D-Druck für den Entwurf (HS) <i>Keine Lehrveranstaltung am 25.10. (Seminarwoche) sowie am 13./20.12. (vor Schlussabgaben).</i>			2 hrs	Mon	12-14	HIL E6 HIL G61		<b>J. Benhamu Esayag</b>
<b>052-0517-21L</b>	<b>Theory and Practice: Heterotopia, Referential Space and Spatial Effects</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					

052-0517-21 G	Theorie und Praxis: Heterotopie, referenzieller Raum und Raumeffekte <i>Kursdaten: Siehe Raumbelagungen!</i>	2 hrs	Mon	14-18	HCI J6	C. Posthofen, A. Brandhuber
<b>052-0533-00L</b>	<b>New Focal Points of Construction: Steel W</b> <b>Constructions</b> <i>This course (ends with «00L») can only be passed once! Please check this before signing up.</i>	<b>2 credits</b>				<b>2G</b>
052-0533-00 G	Neue konstruktive Orte: Stahlbau <i>Keine Lehrveranstaltung am 20.9. (erster Semestertag), am 25.10. (Seminarwoche) sowie am 13. und 20.12. (vor Schlussabgaben).</i>	2 hrs	Mon	10-12	HCI D2	I. von Meiss-Leuthold, D. Mettler, D. Studer
<b>052-0569-21L</b>	<b>Lecture Series Design and Architecture: W</b> <b>Architecture of ...</b>	<b>2 credits</b>				<b>1V</b>
052-0569-21 V	Ringvorlesung Entwurf und Architektur: Architektur von ... <i>Die Ringvorlesungen finden an Dienstagen von 18-20 Uhr in HIL E4 statt (s. Raumreservationen!):</i>  28.09.21: Prof. Patrick Heiz 05.10.21: PD Dr. Erik Wegerhoff (HIL Tiefgarage, bitte Wegweisern folgen!) <i>Keine Live-Übertragung. Aufzeichnung auf IEA Webseite.</i> 12.10.21: Prof. Mike Guyer 02.11.21: Prof. Freek Persyn 16.11.21: GD Roger Boltshauser 30.11.21: GD Angela Deuber 07.12.21: Prof. Alexandre Theriot	1 hrs	Tue	18-20	HIL E4	E. Christ, A. Caruso, C. Kerez, E. Mosayebi
<b>063-0561-21L</b>	<b>Integrated Discipline HS21 in the Field of W</b> <b>Design and Architecture (IEA)</b> <i>Enrolling in this course is only possible on agreement with the lecturer and if you attend a design course (V-IX) at the same time.</i>	<b>3 credits</b>				<b>2A</b>
063-0561-21 A	Integrierte Disziplin HS21 im Bereich Entwurf und Architektur (IEA)	2 hrs				Lecturers
<b>052-0565-21L</b>	<b>Formalistic Analysis of the Architecture W</b> <b>of the Neo-Liberal Ideology: Richti-Areal</b> <i>Number of participants limited to 15</i>  <i>This course is offered until end of FS22.</i>	<b>2 credits</b>				<b>3G</b>
052-0565-21 G	Formalistische Analyse der Architektur der neoliberalen Ideologie: Richti-Areal <i>Keine Lehrveranstaltung am 25.10. (Seminarwoche) sowie 13./20.12. (vor Schlussabgaben).</i>	3 hrs	Mon	10-13	HCP E47.2	E. Christ, C. Portmann
<b>052-0561-00L</b>	<b>Territories of Play - Surveying W</b> <b>Architecture Through Gaming (HS)</b> <i>This course (with "00L" at the end) can only be passed once. Please check before signing up!</i>	<b>2 credits</b>				<b>2S</b>
052-0561-00 S	Territories of Play - Surveying Architecture Through Gaming (HS)	2 hrs	Fri	16-18	HPL D34 ON LINE	P. Heiz, F. Charbonnet, F. Moura Veiga
<b>052-0551-00L</b>	<b>The Architecture of Maintenance (HS) W</b> <i>Is not offered in HS21.</i>	<b>2 credits</b>				<b>2G</b>
052-0551-00 G	The Architecture of Maintenance (HS) <i>Does not take place this semester.</i>	2 hrs				T. Emerson
<b>052-0555-21L</b>	<b>Summer School: Under the Landscape - W</b> <b>Young Makers Gathering</b>	<b>4 credits</b>				<b>6S</b>
052-0555-21 S	Summer School: Under the Landscape - Young Makers Gathering <i>Summer School in Agrilia, Thirasia (Griechenland) vom 6.-17.9.2021. Details s. Kursbeschreibung.</i>	80s hrs				A. Spiro

## ▶▶▶ History and Theory of Architecture

Number	Title	Type	ECTS	Hours	Lecturers
<b>052-0821-00L</b>	<b>Architecture and Photography (HS) W</b> <i>A letter is requested with the preference for one of the groups until 17.9.21. For details see course description!</i>  <i>This course (ending with «00L») can only be passed once! Please check this before signing up.</i>	<b>2 credits</b>		<b>4S</b>	

052-0821-00 S	Architecture and Photography (HS) Permission from lecturers required for all students The course is taught in two groups (Thursday and Friday) in English and German. Course data and place: see room reservation.	4 hrs	Thu Fri	16-20 14-18	HIL D60.1 HIL D60.1	T. Wootton	
052-0847-00L	Experiments on the Spatial Perception and Spatial Cognition of Architects (HS) This course (ends with «00L») can only be passed once! Please check this before signing up.	W	2 credits	2S			
052-0847-00 S	Experimente zur Raumwahrnehmung und zum räumlichen Vorstellungsvermögen Architekturschaffender (HS) Keine Lehrveranstaltung am 25.10. (Seminarwoche) sowie am 13./20.12. (vor Schlussabgaben).		2 hrs	Mon	14-16	HIL E9	A. Gerber
052-0813-21L	History, Criticism and Theory in Architecture: Things of Postmodernity	W	2 credits	2S			
052-0813-21 S	History, Criticism and Theory in Architecture: Things of Postmodernity Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16. und 23.12. (vor Schlussabgaben).		2 hrs	Thu	16-18	HIL F10.3	D. Spina, L. Stalder
052-0815-21L	Seminar Architectural Criticism: The Other Institution, Part II (A. Stahl)	W	2 credits	2G			
052-0815-21 G	Seminar Architekturkritik: Die andere Institution, Teil II (A. Stahl) Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17. und 24.12. (vor Schlussabgaben).		2 hrs	Fri	12-14	HCP E47.1	A. Stahl, L. Stalder, V. Vilardebo Sacchetti
052-0817-21L	Theory of Architecture: What Drawings Did and Do The course is limited to 24 students.	W	2 credits	2S			
052-0817-21 S	Theory of Architecture: What Drawings Did and Do ■ Permission from lecturers required for all students No course on 29.10. (seminar week) and 17./24.12. (before final critiques).		2 hrs	Fri	12-14	HPL D34	C. Brothers, L. Stalder
052-0825-21L	Special Questions in History of Art and Architecture: "Protect Us From What We Want"	W	2 credits	2S			
052-0825-21 S	Spezialfragen zur Kunst- und Architekturgeschichte: "Protect Us From What We Want" Keine Lehrveranstaltung am 25.10. (Seminarwoche), sowie am am 13./20.12. (vor Schlussabgaben).		2 hrs	Mon	16-18	HIL D60.1	B. Seidel, H. Romakin
052-0827-21L	Seminar History and Theory of Urban Design: The City Lived - Unlocking a Multidisciplinary Discourse For students from the 3rd semester	W	4 credits	2S			
052-0827-21 S	Seminar History and Theory of Urban Design: The City Lived - Unlocking a Multidisciplinary Discourse Permission from lecturers required for all students No course on 28.10. (seminar week) and 16./23.12. (before final critics).		2 hrs	Thu	16-18	HIL E3	C. Nuijsink
052-0829-21L	History of Art and Architecture: Exhibiting Architecture Not eligible as a Compulsory GESS Elective for students of D-ARCH.	W	2 credits	2S			
052-0829-21 S	History of Art and Architecture: Exhibiting Architecture ■ No course on 28.10. (seminar week) and 16./23.12. (before final critics).		2 hrs	Thu	12-14	HCP E47.1	A. Abhelakh
052-0833-21L	PhD Teaching: Beijing to Baghdad - Commons/Communism/Communalism	W	2 credits	3S			
052-0833-21 S	PhD Teaching: Beijing to Baghdad - Commons/Communism/Communalism Block course, 3-4 days (during seminar week, 25.-29.10.2021) Details will follow.		40s hrs				L. Stalder, F. Mari
052-0839-21L	Particular Questions in Architectural Theory: Pressure Points - The Subjects of Race and Feminism	W	2 credits	2S			
052-0839-21 S	Particular Questions in Architectural Theory: Pressure Points - The Subjects of Race and Feminism Online seminar: This seminar will primarily take place online. Reserved rooms will remain available for students to follow the seminar from there. No course on 25.10. and in the last two weeks of the semester (s. room reservations).		2 hrs	Mon	12-14	HIL E10.1	R. Choi, L. Stalder
052-0843-21L	History of Art and Architecture	W	2 credits	2G			
052-0843-21 G	Kunst- und Architekturgeschichte ■ Does not take place this semester.		2 hrs				P. Ursprung
052-0845-21L	Reflection on Exhibition and Art Practice Now: Artistic Research This course is limited to 20 participants. Enrollment on agreement with the lecturer	W	2 credits	2U			

(s. coiurse descroipction)							
052-0845-21 U	Reflexionen über Ausstellungs- und Kunstpraxis heute: Künstlerische Recherche ■ <i>Permission from lecturers required for all students</i> <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17./24.12. (vor Schlussabgaben).</i>	2 hrs	Fri	14-16	HIL E7	L. Schädler Meiler, P. Ursprung	
052-0835-21L	Summer School: Transects Through Alpine Water Landscapes (ETH-EPFL) <i>For MSc ARCH students and Doctoral students.</i>	W	2 credits	3K			
052-0835-21 K	Summer School: Transects Through Alpine Water Landscapes (ETH-EPFL) <i>Location: Villa Cassel, 3987 Riederalp, Kanton Wallis</i> <i>Dates: 16-21 August, 2021</i>			45s hrs	T. Avermaete		
052-0851-21L	Topical Questions in History and Theory of Architecture: Gendering History. Women Travellers	W	2 credits	2S			
052-0851-21 S	Topical Questions in History and Theory of Architecture: Gendering History. Women Travellers <i>No course on 25.10. (seminar week) and 16./23.12. (before final critiques).</i>			2 hrs	Thu	12-14	A. Hultzsach, L. Stalder
063-0861-21L	Integrated Discipline HS21 in the Field of History and Theory of Architecture (gta) <i>Enrolling in this course is only possible on agreement with the lecturer and if you attend a design course (V-IX) at the same time.</i>	W	3 credits	2A			
063-0861-21 A	Integrierte Disziplin HS21 im Bereich Geschichte und Theorie der Architektur (gta)			2 hrs	Lecturers		
052-0853-21L	Architecture Beyond the Studio: Reflecting the Social and Cultural Dimensions of Design Proposals <i>This course is offered until end of spring 2023 semester.</i>	W	4 credits	4S			
052-0853-21 S	Architecture Beyond the Studio: Reflecting the Social and Cultural Dimensions of Design Proposals <i>No course on 25.10. (seminar week) as well as 13. and 20.12. (before final critiques).</i> <i>Co-Teaching open</i>			4 hrs	Mon	08-12	P. Ursprung, B. Böhm, J. Kaçani
052-0855-21L	Summer School: On the Threshold - Guidebooks and Visions of Rome	W	2 credits	3S			
052-0855-21 S	Summer School: On the Threshold - Guidebooks and Visions of Rome <i>Date/Place: 25.7.-1.8.2021, Rome</i>			40s hrs	M. Delbeke		
052-0823-21L	History of Art and Architecture: Life Without Buildings - Adam Szymczyk and gta Exhibitions	W	2 credits	2S			
052-0823-21 S	History of Art and Architecture: Life Without Buildings - Adam Szymczyk and gta Exhibitions <i>Keine Lehrveranstaltung am 25.10. (Seminarwoche) sowie am 13. und 20.12. (vor Schlussabgaben)</i>			2 hrs	Mon	10-12	P. Ursprung, F. Fischli, N. Olsen

## ►►► Landscape and Urban Studies

Number	Title	Type	ECTS	Hours				Lecturers
<b>052-0713-21L</b>	<b>Serendipity: Sourced Waters</b> <i>Number of participants limited to 16 (due to technical equipment).</i> <i>Course language: English or/and German</i> <i>23.09.2021: Introduction and final inscription!</i>	<b>W</b>	<b>2 credits</b>	<b>4G</b>				
052-0713-21 G	Serendipity: Sourced Waters ■ <i>02.-03.10.2021: Weekend workshop, all day, in Zurich (mandatory) [[if the current state of the pandemic allows]]. Due to the pandemic and the current situation during the semester, the course may be adjusted. It is unclear at the moment whether the workshop can take place as planned. Likewise, the physical work in the laboratories will have to be adapted selectively, depending on the rules and regulations.</i> <i>No course on 28.10. (seminar week).</i>			60s hrs	Thu	16-18	HIL H40.5 HIL H40.5 HIL H40.5	<b>M. Vollmer</b>
<b>052-0715-21L</b>	<b>Topology: Deep Poly</b>	<b>W</b>	<b>2 credits</b>	<b>2U</b>				
052-0715-21 U	Topology: Deep Poly ■ <i>No course on 29.10. (seminar week) and 17./24.12. (before final critics).</i>			2 hrs	Fri	12-14	HIL H40.8	<b>M. Kaufmann</b>
<b>052-0717-21L</b>	<b>Territory of the City: Paris</b> <i>Number of participants limited to 12.</i> <i>Enrolment in agreement with the lecturer only.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				



052-0717-21 G	Territorium der Stadt: Paris <i>Permission from lecturers required for all students Keine Lehrveranstaltung am 25.10 (Seminarwoche) sowie am 13. und 20.12. (vor Schlussabgaben).</i>	2 hrs	Mon	14-16	HIL D60.1	<b>G. Vogt</b>
<b>052-0723-21L</b>	<b>Sociology: African Urbanties - A Research Seminar</b> <i>The number of participants is limited to 40.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
052-0723-21 S	Sociology: African Urbanties - A Research Seminar <i>No course on 29.10. (seminar week) and in the last two weeks of the semester (final critiques). ONLINE seminar: This seminar will primarily take place online. Reserved rooms will remain available for students to follow the seminar from there.</i>	2 hrs	Fri	16-18	HCP E47.4	<b>A. Hertzog-Fraser</b> , N. Bathla, C. Schmid
<b>052-0725-21L</b>	<b>ACTION! Beautiful Data - The Filmic Art of Numbers</b>	<b>W</b>	<b>2 credits</b>	<b>2U</b>		
052-0725-21 U	ACTION! Beautiful Data - The Filmic Art of Numbers <i>Permission from lecturers required for all students No course on 25.10. (seminar week) and 13./20.12.(before final critics). Monday 11.10. and 1.11.21 a film is shown in ONA E7 from 18:30 -21:00 h.</i>	2 hrs	Mon	10-12	ONA E16	<b>H. Klumpner</b> , C. E. Papanicolaou
<b>063-0761-21L</b>	<b>Integrated Discipline HS21 in the Field of Landscape and Urban Studies (LUS)</b> <i>Enrolling in this course is only possible on agreement with the lecturer and if you attend a design course (V-IX) at the same time.</i>	<b>W</b>	<b>3 credits</b>	<b>2A</b>		
063-0761-21 A	Integrierte Disziplin HS21 im Bereich Landschaft und Urbane Studien (LUS)	2 hrs				Lecturers
<b>052-0735-21L</b>	<b>Winter School: Metropolitan Landscapes: Case Study Berlin-Brandenburg</b>	<b>W</b>	<b>4 credits</b>	<b>9S</b>		
052-0735-21 S	Winter School: Metropolitane Landschaften: Case Study Berlin-Brandenburg <i>14 Tage Blockkurs vom 30.1.2022 bis 14.2.22. Kursort: Berlin</i>	128s hrs				<b>G. Vogt</b>

## ►►► Technology in Architecture

Number	Title	Type	ECTS	Hours					Lecturers
<b>101-0587-00L</b>	<b>Workshop on Sustainable Building Certification</b> <i>Number of participants limited to 25</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0587-00 G	Workshop on Sustainable Building Certification			2 hrs	Fri	10-12	HCP E47.1	<b>D. Kellenberger</b>	
<b>151-8015-00L</b>	<b>Moisture Transport in Porous Media</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
151-8015-00 G	Moisture Transport in Porous Media <i>No course on 25.10 (seminar week) as well as 20.12.2021.</i>			2 hrs	Mon	10-12	HIL E6	<b>J. Carmeliet</b> , L. Fei, J. Huang, J. Zhao	
<b>101-0577-00L</b>	<b>An Introduction to Sustainable Development in the Built Environment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0577-00 G	An Introduction to Sustainable Development in the Built Environment			2 hrs	Tue	16-18	HIL E4	<b>G. Habert</b> , D. Kaushal	
<b>052-0615-00L</b>	<b>Building Process: Realization (HS)</b> <i>The course is limited to 40 students. Enrolment is only possible in agreement with the lecturer (eglin@arch.ethz.ch).</i>  <i>This course (ends with «00L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
052-0615-00 G	Bauprozess: Ausführung (HS) ■ <i>Permission from lecturers required for all students Einführung: 24.9. um 14:00 Uhr in HIB Open Space E-Stock. Präsenz am ersten Kurstag erforderlich! Struktur (Vorlesungen, Feldarbeit, Schlusspräsentation) wird noch bekanntgegeben. Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17./24.12. (vor Schlussabgaben).</i>			2 hrs	Fri	14-16	HCI J4	<b>M. Eglin</b>	
<b>052-0625-00L</b>	<b>Historical and Systematic Aspects of Acoustic Design in Architecture (HS)</b> <i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE. ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a></i>  <i>This course is offered in cooperation with the chairs of Gramazio/Kohler and Delbeke. It is offered the last time in HS21.</i>  <i>This course (ends with «00L») can only be passed once! Please check this before</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					

signing up.

052-0625-00 G	Historische und Systematische Aspekte des akustischen Architekturentwurfs (HS) <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 10. und 17.12. (vor Schlussabgaben).</i>	2 hrs	Thu	12-14	HIL E7	J. Strauss	
052-0627-21L	<b>CAAD Theory: Digital Epic - Creative Writing for Architects</b> <i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE.</i> ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a>	W	2 credits	2G			
052-0627-21 G	CAAD Theory: Digital Epic - Creative Writing for Architects <i>No course on 25.10. (seminar week) and 13. and 20.12. (before final critics).</i>		2 hrs	Mon	14-16	HIB E15	L. Hovestadt
052-0629-21L	<b>CAAD Practice:</b>	W	2 credits	2G			
052-0629-21 G	CAAD Practice: <i>Does not take place this semester.</i>		2 hrs				L. Hovestadt
063-0661-21L	<b>Integrated Discipline HS21 in the Field of Technology in Architecture (ITA)</b> <i>Enrolling in this course is only possible on agreement with the lecturer and if you attend a design course (V-IX) at the same time.</i>	W	3 credits	2A			
063-0661-21 A	Integrierte Disziplin HS21 im Bereich Technologie in der Architektur (ITA)		2 hrs				Lecturers
052-0639-00L	<b>Climate Responsive Architecture with Hive</b>	W	1 credit	2G			
052-0639-00 G	Climate Responsive Architecture with Hive		30s hrs				A. Schlüter
►►► Historic Building Archaeology and Conservation							
Number	Title	Type	ECTS	Hours			Lecturers
063-0961-21L	<b>Integrated Discipline HS21 in the Field of Historic Building Research and Conservation (IDB)</b> <i>Enrolling in this course is only possible on agreement with the lecturer and if you attend a design course (V-IX) at the same time.</i>	W	3 credits	2A			
063-0961-21 A	Integrierte Disziplin HS21 im Bereich Denkmalpflege und Bauforschung (IDB)		2 hrs				Lecturers
052-0913-21L	<b>Preservation: Communicate &amp; Exhibit</b> <i>Number of participants limited to 40.</i>  <i>ITA Pool Introduction to courses within the institute ITA: 8.9.21, 10-11h, HIB Open Space.</i>	W	2 credits	2S			
052-0913-21 S	Denkmalpflege: Vermitteln & Ausstellen <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie 16./23.12.21 (vor Schlussabgaben).</i> <i>ITA Pool Einführungsveranstaltung über die angebotenen Kurse des Instituts ITA: 8.9.21, 10-11h, HIB Open Space.</i>		2 hrs	Fri	14-16	HIL E9	S. Langenberg
052-0911-21L	<b>Repair: Making Things Better</b> <i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE.</i> ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a>	W	2 credits	2S			
052-0911-21 S	Reparatur: Besser machen <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie 17./24.12. (vor Schlussabgaben).</i>		2 hrs	Fri	12-14 08.10. 10.12.	HIB E52 HIL E67 HIL E67	S. Langenberg
052-0915-21L	<b>An Example-Based Introduction into Building Archaeology</b> <i>This course is offered until end of HS22.</i>	W	2 credits	2V			
052-0915-21 V	An Example-Based Introduction into Building Archaeology <i>No course on 28.10. (seminar week) as well as 16./23.12. (before final critiques).</i>		2 hrs	Thu	16-18	HPV G5	L. Vandenabeele

## ►► Focus Works

see Architecture MSc "Focus Work"

## ► Seminar Weeks

Number	Title	Type	ECTS	Hours	Lecturers		
051-0911-21L	Seminar Week Autumn Semester 2021	W	2 credits	3A			

## ► GESS Science in Perspective

### ►► Science in Perspective

see GESS Science in Perspective: Type A:  
 Enhancement of Reflection Capability

Recommended GESS Science in  
 Perspective (Type B) for D-ARCH.

### ►► Language Courses

see GESS Science in Perspective:  
 Language Courses ETH/UZH

#### Architecture Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Architecture Master

## ► Core Courses

### ►► Field of History and Theory of Architecture

Number	Title	Type	ECTS	Hours					Lecturers
<b>063-0801-00L</b>	<b>History of Art and Architecture VII:</b> <i>This core course (ending with «00L») can only be passed once! Please check before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
063-0801-00 V	History of Art and Architecture VII: <i>Does not take place this semester. No course on 28.10. (seminar week) and 16./23.12. (before final critiques).</i>			2 hrs					
<b>063-0803-00L</b>	<b>History and Theory in Architecture IX (Ursprung)</b> <i>This core course (ending with «00L») can only be passed once! Please check before signing up.</i>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					
063-0803-00 V	History and Theory in Architecture IX (Ursprung) <i>No course on 29.10. (seminar week) and 17./24.12. (before final critiques).</i>			1 hrs	Fri	08-09	HIL E1		<b>P. Ursprung</b>
<b>063-0803-01L</b>	<b>History and Theory in Architecture IX (Avermaete)</b> <i>This core course (ends with «01L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					
063-0803-01 V	History and Theory in Architecture IX (Avermaete) <i>No course on 29.10. (seminar week) and 17./24.12. (before final critics).</i>			1 hrs	Fri	09-10	HIL E1		<b>T. Avermaete, H. Teerds</b>
<b>063-0803-02L</b>	<b>History and Theory of Architecture IX (Gnehm)</b> <i>The course languages are German and English. This core course (ends with «02L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					
063-0803-02 V	Architekturgeschichte und -theorie IX (Gnehm) <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17./24.12. (vor Schlussabgaben). Kurssprachen sind Deutsch und Englisch.</i>			1 hrs	Fri	12-13	HIL E8		<b>M. Gnehm</b>
<b>063-0313-21L</b>	<b>History of Art and Architecture V: Caractère (Character)</b> <i>This course is full. Please do not enroll after 9.9.2021. Thank you.</i>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					
063-0313-21 V	History of Art and Architecture V: Caractère (Character) <i>No course on 29.10. (seminar week) and 17./24.12. (before final critics). The course is full. Please do not enroll after 9.9.2021. Thank you.</i>			1 hrs	Fri	09-10	HIL C10.2		<b>M. Delbeke, S. de Jong</b>

### ►► Field of Historic Building Research and Conservation

Number	Title	Type	ECTS	Hours					Lecturers
<b>063-0901-00L</b>	<b>Construction History: The Construction Site and Its Technology</b> <i>This core course (ends with «00L») can only be passed once! Please check this before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
063-0901-00 G	Konstruktionsgeschichte: Herstellungstechnik und Baustelle ■ <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16./23.12. (vor Schlussabgaben).</i>			2 hrs	Thu	08-10	HIL E1		<b>S. Holzer</b>
<b>063-0903-00L</b>	<b>Case Studies Construction History and Building Preservation (HS)</b> <i>The number of participants is limited to 40.</i>  <i>This core course (ends with «00L») can only be passed once! Please check this before signing up.</i>  <i>Each enrolment requires an uninterrupted visit throughout the semester. Cancellation (incl. deletion of enrolment) is permitted until 26.9.21.</i>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
063-0903-00 G	Fallstudien Konstruktionsgeschichte und Bauforschung (HS) ■			2 hrs	Fri/1	16-18	HIL E7		<b>S. Holzer</b>
<b>063-0911-00L</b>	<b>Future Monuments</b> <i>This core course (ends with «00L») can only be passed once! Please check this before signing up.</i> <i>ITA Pool Introduction to courses within the institute ITA: 8.9.21, 10-11h, HIB Open Space.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					

063-0911-00 V	Denkmäler der Zukunft (HS) <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) und 16./23.12. (vor Schlussabgaben).</i>	2 hrs	Thu	16-18	HIL E1	<b>S. Langenberg</b>
---------------	----------------------------------------------------------------------------------------------------------------------------	-------	-----	-------	--------	----------------------

## ►► Field of Landscape Architecture and Urban Studies

Number	Title	Type	ECTS	Hours	Lecturers	
<b>063-0701-00L</b>	<b>Methods of Urban Research</b> <i>This core course (ends with «00L») can only be passed once! Please check this before signing up</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>		
063-0701-00 G	Methoden der Stadtforschung <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16./23.12. (vor Schlussabgaben). ONLINE: Diese Lehrveranstaltung wird hauptsächlich online angeboten. Der reservierte Raum steht den Studierenden jedoch zur Verfügung, um das Seminar von dort aus zu verfolgen.</i>			2 hrs	Thu	14-16 HIL E1 <b>C. Schmid, I. Apostol, N. Bathla, L. Howe, C. Ting</b>
<b>063-0703-00L</b>	<b>Architecture of Territory: Territorial Design in Histories, Theories and Projects</b> <i>This core course (ending with «00L») can only be passed once! Please check before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>		
063-0703-00 V	Architecture of Territory: Territorial Design in Histories, Theories and Projects <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	10-12 ONA E7 <b>M. Topalovic</b>

## ►► Field of Technology in Architecture

Number	Title	Type	ECTS	Hours	Lecturers	
<b>063-0605-00L</b>	<b>Computational Structural Design I</b> <i>Number of participants limited to 60. To participate in this course it is recommended that the student has previously taken the courses Tragwerksentwurf I-IV. This core course (ending with «00L») can only be passed once! Please check before signing up.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>		
	<i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE. ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a></i>					
063-0605-00 G	Computational Structural Design I <i>No course on 29.10. (seminar week) and 17./24.12. (before final critiques). Teaching Languages: English and German</i>			3 hrs	Fri	10-13 HPT C103 <b>P. Block, L. Enrique Monzo, J. Lee</b>
<b>063-0607-00L</b>	<b>Energy- and Climate Systems III</b> <i>This core course (ending with «00L») can only be passed once! Please check before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>		
	<i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE. ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a></i>					
063-0607-00 V	Energy- and Climate Systems III <i>No course on 29.10. (seminar week) and 17./24.12. (before final critiques).</i>			2 hrs	Fri	08-10 HIL E7 <b>A. Schlüter, C. Waibel</b>
<b>151-8007-00L</b>	<b>Urban Physics</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>		
151-8007-00 G	Urban Physics <i>No course on 28.10 (seminar week) and no course on 23.12.2021.</i>			3 hrs	Thu	13-16 HIL E9 <b>J. Carmeliet, D. W. Brunner, A. Rubin, C. Schär, D. A. Strebel, H. Wernli, J. M. Wunderli, Y. Zhao</b>
<b>063-0601-00L</b>	<b>Building Process: Economy</b> <i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE. ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a></i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>		
	<i>This core course (ends with «00L») can only be passed once! Please check this before signing up</i>					

063-0601-00 G	Bauprozess: Ökonomie <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17./24.12. (vor Schlussabgaben). Präsenz am ersten Kurstag erforderlich!</i>	2 hrs	Fri	10-12	HCI G7	H. Reichel
063-0611-00L	<b>The Digital in Architecture II (Exercise) W</b> <i>Prerequisite: Successful completion of the course "Structural Design VI" (063-0606-00L), "Design III" (052-0541/43/45) or "Das Digitale in der Architektur" (063-0610-00L). This core course (ending with «00L») can only be passed once! Please check before signing up.</i>  <i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE. ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a></i>	2 credits	1V+2U			
063-0611-00 V	The Digital in Architecture II <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>	1 hrs	Thu	16-17	HIB D13.1	J. Medina Ibañez
063-0611-00 U	The Digital in Architecture II (Exercise) <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>	2 hrs	Thu	17-19	HIB D13.1	J. Medina Ibañez
063-0417-01L	<b>Architecture and Structure (HS) W</b> <i>This core course (ends with «01L») can only be passed once! Please check this before signing up.</i>  <i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE. ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a></i>	3 credits	3G			
063-0417-01 G	Architektur und Tragwerk (HS) <i>Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16./23.12. (vor Schlussabgaben).</i>	3 hrs	Thu	16-19	HIL E8	J. Schwartz, U. Jaray Bergianti

## ► Architectural Design

Number	Title	Type	ECTS	Hours	Lecturers
	Choice of "Architectural Design" (from 05. Sem.) of the Bachelor course.				
063-0853-21L	<b>Subject Semester HS21 in the Field of History and Theory in Architecture (gta, Prof. Ursprung)</b> <i>Allocation only after consultation with the professor (meetings as required and after consultation with the chair).</i>  <i>The application deadline is Wednesday September 8, 2021, 8 p.m. You will receive a message about acceptance or rejection for the subject semester by Thursday, September 9, 2021, 2 p.m. at the latest. Students who have been rejected have the opportunity to choose a design class.</i>  <i>A student can only register once for a "Fachsemester" during the Master studies!</i>	W	14 credits	29A	
063-0853-21 A	Fachsemester HS21 im Bereich Geschichte und Theorie der Architektur (gta Prof. Ursprung) ■ <i>Permission from lecturers required for all students Selbständige Arbeit.</i>			400s hrs by appt.	P. Ursprung, T. Avermaete, M. Delbeke
063-0855-21L	<b>Subject Semester (Fachsemester) HS21 in the Field of History and Theory in Architecture gta(Delbeke)</b> <i>Allocation only after consultation with the professor (meetings as required and after consultation with the professorship).</i>  <i>A student can only register once for a "Fachsemester" during the Master studies!</i>  <i>The application deadline is Wednesday, September 8, 2021, 8 p.m. You will receive a message about acceptance or rejection for the subject semester by Thursday, September 9, 2021, 2 p.m. at the latest. Students who have been rejected have the</i>	W	14 credits	29A	

063-0855-21 A	<b>opportunity to choose a design class.</b> Subject Semester (Fachsemester) HS21 im Bereich Geschichte und Theorie der Architektur (gta Delbeke) ■ <i>Permission from lecturers required for all students</i> <i>Self dependent work.</i> <i>Enrolment in agreement with the chair only.</i> <i>Meetings as required and in consultation with the chair.</i>				400s hrs	21.09.	14-17	HIT F12	<b>M. Delbeke, T. Avermaete, P. Ursprung</b>
063-0953-21L	<b>Subject Semester HS21 in the Field of Historic Building Research and Conservation (IDB, Prof Holzer)</b> <i>A student can only register once for a "Fachsemester" during the Master studies!</i>  <i>The application deadline is Friday September 3, 2021, 8 p.m. You will receive a message about acceptance or rejection for the subject semester by Thursday, September 9, 2021, 2 p.m. at the latest. Students who have been rejected have the opportunity to choose a design class.</i>	W	14 credits	29A					
063-0953-21 A	Fachsemester HS21 im Bereich Denkmalpflege und Bauforschung (IDB, Prof. Holzer) ■ <i>Permission from lecturers required for all students</i> <i>Selbständige Arbeit.</i> <i>Belegung nur nach Absprache mit dem Professor.</i> <i>Besprechungen nach Bedarf und nach Absprache mit der Professur.</i>				400s hrs	by appt.			<b>S. Holzer, T. Avermaete, M. Delbeke, P. Ursprung</b>
063-0655-21L	<b>Subject Semester (Fachsemester) HS21 in the Field of Technology in Architecture (ITA, Prof. Schlüter)</b> <i>A student can only register once for a "Fachsemester" during the Master studies!</i>  <i>The application deadline for this "Fachsemester" is Wednesday, September 1, 2021, 8 p.m. You will receive a message about acceptance or rejection for the subject semester by Friday, September 3, 2021, 2 p.m. at the latest. Students who have been rejected have the opportunity to choose a design class.</i>	W	14 credits	29A					
063-0655-21 A	Subject Semester (Fachsemester) HS21 in the Field of Technology in Architecture (ITA, Prof. Schlüter) ■ <i>Permission from lecturers required for all students</i>				400s hrs				<b>A. Schlüter</b>
063-0857-21L	<b>Subject Semester (Fachsemester) HS21 in the Field of History and Theory in Architecture (Avermaete)</b> <i>Enrolment in agreement with the chair only.</i> <i>Meetings as required and in consultation with the chair.</i>  <i>A student can only register once for a "Fachsemester" during the Master studies!</i>  <i>The application deadline is Wednesday 8th September 2021, 8 p.m. You will receive a message about acceptance or rejection for the subject semester by Thursday, September 9, 2021, 2 p.m. at the latest. Students who have been rejected have the opportunity to choose a design class.</i>	W	14 credits	29A					
063-0857-21 A	Subject Semester (Fachsemester) HS21 in the Field of History and Theory in Architecture (Avermaete) ■ <i>Permission from lecturers required for all students</i> <i>Self dependent work.</i>				400s hrs	by appt.			<b>T. Avermaete, M. Delbeke, P. Ursprung</b>
052-1201-21L	<b>Preparation Semester Free Master Thesis HS21</b>	W	14 credits	16A					
052-1201-21 A	Vorbereitungssemester freie Master-Arbeit HS21				16 hrs				Lecturers

## ► Focus Work

*Realization in the respective fields of the institutes. Definition of topics by professors, in consultation with the students. The content may also refer to an elective course.*

*The performance assessment comprises either a purely written examination followed by an oral examination or a creative, manual or drawing work, including a description, followed by an oral examination.*  
*At least one focus work is a written work followed by an oral exam. The written work fulfills the criteria of a scientific paper in a formal sense. In addition to the design, crafting or drawing part, it also includes a written description of the question, methodology and knowledge gained.*

*A creative, crafting or graphic focus work is shown in a public exhibition, a purely written focus work is accessible to the public.*

## ►► Field of Historic Building Research and Conservation

*Definition of topics by professors, in consultation with the students (student's proposal / content of an elective course).*

Performance assessment: Purely written examination followed by an oral examination OR a creative, manual or drawing work, including a description, followed by an oral examination.

At least one focus work is a written work followed by an oral exam. The written work fulfills the criteria of a scientific paper in a formal sense. In addition to the design, crafting or drawing part, it also includes a written description of the question, methodology and possibly gained knowledge.

A creative, crafting or graphic focus work is shown in a public exhibition, a purely written focus work is accessible to the public.  
Information on exams and grades: Art. 29 of the MSc D-ARCH regulations.

Number	Title	Type	ECTS	Hours	Lecturers
<b>063-0951-21L</b>	<b>Focus Work HS21 in the Field of Historic W Building Research and Conservation (IDB)</b>	<b>W</b>	<b>6 credits</b>	<b>13A</b>	
063-0951-21 A	Vertiefungsarbeit HS21 im Bereich Denkmalpflege und Bauforschung (IDB)			180s hrs	Supervisors

## ►► Field of Design and Architecture

Definition of topics by professors, in consultation with the students (student's proposal / content of an elective course).

Performance assessment: Purely written examination followed by an oral examination OR a creative, manual or drawing work, including a description, followed by an oral examination.

At least one focus work is a written work followed by an oral exam. The written work fulfills the criteria of a scientific paper in a formal sense. In addition to the design, crafting or drawing part, it also includes a written description of the question, methodology and possibly gained knowledge.

A creative, crafting or graphic focus work is shown in a public exhibition, a purely written focus work is accessible to the public.  
Information on exams and grades: Art. 29 of the MSc D-ARCH regulations.

Number	Title	Type	ECTS	Hours	Lecturers
<b>063-0551-21L</b>	<b>Focus Work HS21 in the Field of Design W and Architecture (IEA)</b> For supervision in the field of "Model and Design" choose the Study Director.	<b>W</b>	<b>6 credits</b>	<b>13A</b>	
063-0551-21 A	Vertiefungsarbeit HS21 im Bereich Entwurf und Architektur (IEA)			180s hrs	Supervisors

## ►► Field of History and Theory of Architecture

Definition of topics by professors, in consultation with the students (student's proposal / content of an elective course).

Performance assessment: Purely written examination followed by an oral examination OR a creative, manual or drawing work, including a description, followed by an oral examination.

At least one focus work is a written work followed by an oral exam. The written work fulfills the criteria of a scientific paper in a formal sense. In addition to the design, crafting or drawing part, it also includes a written description of the question, methodology and possibly gained knowledge.

A creative, crafting or graphic focus work is shown in a public exhibition, a purely written focus work is accessible to the public.  
Information on exams and grades: Art. 29 of the MSc D-ARCH regulations.

Number	Title	Type	ECTS	Hours	Lecturers
<b>063-0851-21L</b>	<b>Focus Work HS21 in the Field of History W and Theory in Architecture (gta)</b>	<b>W</b>	<b>6 credits</b>	<b>13A</b>	
063-0851-21 A	Vertiefungsarbeit HS21 im Bereich Geschichte und Theorie der Architektur (gta)			180s hrs	Supervisors

## ►► Field of Landscape Architecture and Urban Studies

Definition of topics by professors, in consultation with the students (student's proposal / content of an elective course).

Performance assessment: Purely written examination followed by an oral examination OR a creative, manual or drawing work, including a description, followed by an oral examination.

At least one focus work is a written work followed by an oral exam. The written work fulfills the criteria of a scientific paper in a formal sense. In addition to the design, crafting or drawing part, it also includes a written description of the question, methodology and possibly gained knowledge.

A creative, crafting or graphic focus work is shown in a public exhibition, a purely written focus work is accessible to the public.  
Information on exams and grades: Art. 29 of the MSc D-ARCH regulations.

Number	Title	Type	ECTS	Hours	Lecturers
<b>063-0751-21L</b>	<b>Focus Work HS21 in the Field Landscape and Urban Studies (LUS)</b>	<b>W</b>	<b>6 credits</b>	<b>13A</b>	
063-0751-21 A	Vertiefungsarbeit HS21 im Bereich Landschaft und Urbane Studien (LUS)			180s hrs	Supervisors
<b>103-0569-00L</b>	<b>European Aspects of Spatial Development</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>	
103-0569-00 G	European Aspects of Spatial Development Online lecture: This lecture will primarily take place online. Reserved rooms will remain available for students to follow the seminar from there.			2 hrs Tue 16-18 HIL D53	<b>A. Peric Momcilovic</b>

## ►► Field of Technology in Architecture

Definition of topics by professors, in consultation with the students (student's proposal / content of an elective course).

Performance assessment: Purely written examination followed by an oral examination OR a creative, manual or drawing work, including a description, followed by an oral examination.

At least one focus work is a written work followed by an oral exam. The written work fulfills the criteria of a scientific paper in a formal sense. In addition to the design, crafting or drawing part, it also includes a written description of the question, methodology and possibly gained knowledge.

A creative, crafting or graphic focus work is shown in a public exhibition, a purely written focus work is accessible to the public.  
Information on exams and grades: Art. 29 of the MSc D-ARCH regulations.



Number	Title	Type	ECTS	Hours	Lecturers		
063-0651-21L	<b>Focus Work HS21 in the Field of Technology in Architecture (ITA)</b>	W	6 credits	13A			
063-0651-21 A	Vertiefungsarbeit HS21 im Bereich Technologie in der Architektur (ITA)			180s hrs	Supervisors		
<b>► Master's Thesis</b>							
Number	Title	Type	ECTS	Hours	Lecturers		
063-0141-00L	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>  <i>Ultimate deadline to unsubscribe or enroll for the Master Thesis is 17.11.2021.</i> <i>Deleting a reservation after this date is prohibited.</i>	O	30 credits	40D			
063-0141-00 D	Master-Arbeit			40 hrs	Lecturers		
<b>► Electives</b>							
Number	Title	Type	ECTS	Hours	Lecturers		
	see "electives" in Architecture BSc						
101-0523-12L	<b>Frontiers in Machine Learning Applied to Civil, Env. and Geospatial Engineering (HS21)</b> <i>Number of participants limited to 21.</i>	W	1 credit	2S			
101-0523-12 S	Frontiers in Machine Learning Applied to Civil, Env. and Geospatial Engineering (HS21) ■ <i>Starting time: 13:45.</i>			2 hrs	Wed/2w 14-16	ON LINE <b>M. A. Kraus</b> , E. Chatzi, F. Corman, O. Fink, I. Hajnsek, M. Lukovic, K. Schindler, B. Soja, B. Sudret, M. J. Van Strien	
<b>► Seminar Weeks</b>							
Number	Title	Type	ECTS	Hours	Lecturers		
051-0911-21L	<b>Seminar Week Autumn Semester 2021</b>	W	2 credits	3A			
051-0911-21 A	Seminarwoche Herbstsemester 2021 <i>Seminarwoche vom 25.-29.10.2021.</i> <i>Die Programme werden zu Beginn des Semesters publiziert.</i>			40s hrs	Lecturers		
<b>► GESS Science in Perspective</b>							
	see GESS Science in Perspective: Language Courses ETH/USZ						
	see GESS Science in Perspective: Type A: Enhancement of Reflection Capability						
	Recommended GESS Science in Perspective (Type B) for D-ARCH.						
<b>► Course Units for Additional Admission Requirements</b> <i>The courses below are only available for MSc students with additional admission requirements.</i>							
Number	Title	Type	ECTS	Hours	Lecturers		
052-1100-AAL	<b>Architectural Design V-IX (Part 1)</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>  <i>Please register (<a href="http://www.mystudies.ethz.ch">www.mystudies.ethz.ch</a>) only after the internal enrolment for the design classes (see <a href="http://www.einschreibung.arch.ethz.ch/design.php">http://www.einschreibung.arch.ethz.ch/design.php</a>)</i>  <i>Project grading at semester end is based on the list of enrolments on 2.11.21 (valuation date) only.</i> <i>This is the ultimate deadline to unsubscribe or enroll for the studio.</i>	E-	14 credits	16U			
052-1100-AA U	Entwurf V-IX (Teil 1)			16 hrs	Lecturers		
052-1101-AAL	<b>Architectural Design V-IX (Part 2)</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an</i>	E-	14 credits	16U			

additional admission requirement.

Any other students (e.g. incoming  
exchange students, doctoral students)  
CANNOT enrol for this course unit.

Please register ([www.mystudies.ethz.ch](http://www.mystudies.ethz.ch))  
only after the internal enrolment for the  
design classes (see  
<http://www.einschreibung.arch.ethz.ch/design.php>)

Project grading at semester end is based  
on the list of enrolments on 2.11.21, 24:00  
h (valuation date) only. This is the ultimate  
deadline to unsubscribe or enroll for the  
studio..

052-1101-AA U Entwurf V-IX (Teil 2)

16 hrs

Lecturers

#### Architecture Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Atmospheric and Climate Science Master

## ► Modules

### ►► Weather Systems and Atmospheric Dynamics

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-1221-00L</b>	<b>Dynamics of Large-Scale Atmospheric Flow</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
701-1221-00 V	Dynamics of Large-Scale Atmospheric Flow			2 hrs	Wed	09-11	CHN E42	<b>H. Wernli</b> , L. Papritz
701-1221-00 U	Dynamics of Large-Scale Atmospheric Flow			1 hrs	Wed	11-12	CHN E42	<b>H. Wernli</b> , L. Papritz
<b>651-4053-05L</b>	<b>Boundary Layer Meteorology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
651-4053-05 G	Boundary Layer Meteorology			3 hrs	Fri	08-10 12-13	CAB G51 CAB G61	<b>M. Rotach</b> , P. Calanca

### ►► Climate Processes and Feedbacks

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-1235-00L</b>	<b>Cloud Microphysics</b> <i>Number of participants limited to 16.</i>  <i>Priority is given to PhD students majoring in Atmospheric and Climate Sciences, and remaining open spaces will be offered to the following groups:</i> <i>- PhD student Environmental sciences</i> <i>- MSc in Atmospheric and climate science</i> <i>- MSc in Environmental sciences</i>  <i>All participants will be on the waiting list at first. Enrollment is possible until September 22nd, 2021. The waiting list is active until October 1st, 2021. All students will be informed on September 16th, if they can participate in the lecture.</i> <i>The lecture takes place if a minimum of 5 students register for it.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
701-1235-00 V	Cloud Microphysics			2 hrs	Tue	10-12	CHN G22	<b>U. Lohmann</b> , N. Shardt
701-1235-00 U	Cloud Microphysics			1 hrs	Tue	12-13	CHN G22	<b>U. Lohmann</b> , N. Shardt
<b>701-1251-00L</b>	<b>Land-Climate Dynamics</b> <i>Number of participants limited to 36.</i> <i>Priority is given to the target groups:</i> <i>- Master Environmental Science,</i> <i>- Master Atmospheric and Climate Science and</i> <i>- PhD D-USYS</i> <i>until September 20th, 2021.</i> <i>Waiting list will be deleted September 27th, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-1251-00 G	Land-Climate Dynamics			2 hrs	Tue 05.10.	14-16 14-16	CHN E42 HG E19	<b>S. I. Seneviratne</b> , R. Padrón Flasher

### ►► Atmospheric Composition and Cycles

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-1239-00L</b>	<b>Aerosols I: Physical and Chemical Principles</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
701-1239-00 V	Aerosols I: Physical and Chemical Principles			2 hrs	Mon	14-16	CAB G52	<b>M. Gysel Beer</b> , D. Bell, E. Weingartner
701-1239-00 U	Aerosols I: Physical and Chemical Principles			1 hrs	Mon	13-14	CAB G52	<b>M. Gysel Beer</b> , D. Bell, E. Weingartner
<b>701-1233-00L</b>	<b>Stratospheric Chemistry</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
701-1233-00 V	Stratospheric Chemistry			2 hrs	Thu	14-16	CHN F42	<b>T. Peter</b> , G. Chiodo
701-1233-00 U	Stratospheric Chemistry <i>Exercises start in the second week of the semester.</i>			1 hrs	Thu	13-14	CHN F42	<b>T. Peter</b> , G. Chiodo

### ►► Climate History and Paleoclimatology

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4057-00L</b>	<b>Climate History and Palaeoclimatology</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
651-4057-00 G	Climate History and Palaeoclimatology			2 hrs	Fri	10-12	ML F39	<b>H. Stoll</b> , I. Hernández Almeida, H. Zhang

### ►► Hydrology and Water Cycle

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-1251-00L</b>	<b>Land-Climate Dynamics</b> <i>Number of participants limited to 36.</i> <i>Priority is given to the target groups:</i> <i>- Master Environmental Science,</i> <i>- Master Atmospheric and Climate Science and</i> <i>- PhD D-USYS</i> <i>until September 20th, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				

Waiting list will be deleted September 27th, 2021.

701-1251-00 G	Land-Climate Dynamics			2 hrs	Tue 05.10.	14-16 14-16	CHN E42 HG E19	<b>S. I. Seneviratne,</b> R. Padrón Flasher
<b>701-1253-00L</b>	<b>Analysis of Climate and Weather Data</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-1253-00 G	Analysis of Climate and Weather Data <i>Does not take place this semester.</i>			2 hrs				<b>C. Frei</b>
<b>651-4053-05L</b>	<b>Boundary Layer Meteorology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
651-4053-05 G	Boundary Layer Meteorology			3 hrs	Fri	08-10 12-13	CAB G51 CAB G61	<b>M. Rotach,</b> P. Calanca
<b>102-0468-10L</b>	<b>Watershed Modelling</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
102-0468-10 G	Watershed Modelling <i>Remark: New course replacing 102-0237-00 Hydrology II (until HS19) and 102-0468-00 Watershed Modeling (until FS20).</i>			4 hrs	Mon Wed	16-18 12-14	HIL E8 HIL E8	<b>P. Molnar</b>

## ► Electives

The students are free to choose individually from the entire course offer of ETH Zürich and the universities of Zürich and Bern.

## ►► Weather Systems and Atmospheric Dynamics

Courses are only offered in Spring Semester.

## ►► Climate Processes and Feedbacks

Two additional courses are offered in Autumn Semester by University of Berne.

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-1221-00L</b>	<b>Dynamics of Large-Scale Atmospheric Flow</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
701-1221-00 V	Dynamics of Large-Scale Atmospheric Flow			2 hrs	Wed	09-11	CHN E42	<b>H. Wernli,</b> L. Papritz
701-1221-00 U	Dynamics of Large-Scale Atmospheric Flow			1 hrs	Wed	11-12	CHN E42	<b>H. Wernli,</b> L. Papritz
<b>651-4057-00L</b>	<b>Climate History and Palaeoclimatology</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
651-4057-00 G	Climate History and Palaeoclimatology			2 hrs	Fri	10-12	ML F39	<b>H. Stoll,</b> I. Hernández Almeida, H. Zhang
<b>701-1257-00L</b>	<b>European Climate Change</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-1257-00 G	European Climate Change			2 hrs	Mon	10-12	LFO C13	<b>C. Schär,</b> J. Rajczak, S. C. Scherrer

## ►► Atmospheric Composition and Cycles

Number	Title	Type	ECTS	Hours				Lecturers
<b>102-0635-01L</b>	<b>Air Pollution Control</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
102-0635-01 G	Luftreinhaltung			4 hrs	Wed Fri	10-12 08-10	HIL E6 HIL E6	<b>J. Wang,</b> B. Buchmann
<b>701-1235-00L</b>	<b>Cloud Microphysics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
	<i>Number of participants limited to 16.</i>  <i>Priority is given to PhD students majoring in Atmospheric and Climate Sciences, and remaining open spaces will be offered to the following groups:</i> - PhD student Environmental sciences - MSc in Atmospheric and climate science - MSc in Environmental sciences  <i>All participants will be on the waiting list at first. Enrollment is possible until September 22nd, 2021. The waiting list is active until October 1st, 2021. All students will be informed on September 16th, if they can participate in the lecture.</i> <i>The lecture takes place if a minimum of 5 students register for it.</i>							
701-1235-00 V	Cloud Microphysics			2 hrs	Tue	10-12	CHN G22	<b>U. Lohmann,</b> N. Shardt
701-1235-00 U	Cloud Microphysics			1 hrs	Tue	12-13	CHN G22	<b>U. Lohmann,</b> N. Shardt
<b>651-4053-05L</b>	<b>Boundary Layer Meteorology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
651-4053-05 G	Boundary Layer Meteorology			3 hrs	Fri	08-10 12-13	CAB G51 CAB G61	<b>M. Rotach,</b> P. Calanca

## ►► Climate History and Paleoclimatology

Two courses are offered in Autumn Semester at University of Berne. ETH courses are only offered in Spring Semester.

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4041-00L</b>	<b>Sedimentology I: Physical Processes and Sedimentary Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
651-4041-00 G	Sedimentology I: Physical Processes and Sedimentary Systems			28s hrs	Tue/1 Wed/1	14-16 10-12	NO D11 NO D11	<b>V. Picotti</b>
<b>651-4043-00L</b>	<b>Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
	<i>Prerequisite: Successful completion of the MSc-course "Sedimentology I" (651-</i>							

4041-00L).

651-4043-00 G	Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems			28s hrs	Tue/2 Wed/2	14-16 10-12	NO D11 NO D11	<b>V. Picotti</b> , A. Gilli, I. Hernández Almeida, H. Stoll
<b>651-4901-00L</b>	<b>Quaternary Dating Methods</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
651-4901-00 G	Quaternary Dating Methods			2 hrs	Tue 12.10.	08-10 08-10	NO E11 HPK D24.2	<b>I. Hajdas</b> , M. Christl, S. Ivy Ochs

## ►► Hydrology and Water Cycle

Number	Title	Type	ECTS	Hours					Lecturers
<b>651-4023-00L</b>	<b>Groundwater</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
651-4023-00 G	Groundwater			4 hrs	Mon Thu	16-18 08-10	NO E39 NO C44		<b>X.-Z. Kong</b> , B. Marti
<b>102-0287-00L</b>	<b>River Basin Erosion</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
102-0287-00 G	River Basin Erosion <i>Remark: Title until HS20: Fluvial Systems.</i>			2 hrs	Thu	14-16	HIL E6		<b>P. Molnar</b>
<b>701-0535-00L</b>	<b>Environmental Soil Physics/Vadose Zone Hydrology</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>					
701-0535-00 V	Environmental Soil Physics/Vadose Zone Hydrology			2 hrs	Wed	16-18	CHN E46		<b>A. Carminati</b> , P. U. Lehmann Grunder
701-0535-00 U	Environmental Soil Physics/Vadose Zone Hydrology			1 hrs	Wed	18-19	CHN E46		<b>A. Carminati</b> , P. U. Lehmann Grunder
<b>651-2915-00L</b>	<b>Seminar in Hydrology</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>					
651-2915-00 S	Seminar in Hydrology			8s hrs					<b>P. Burlando</b> , J. W. Kirchner, S. Löw, C. Schär, M. Schirmer, S. I. Seneviratne, M. Stähli, C. H. Stamm, University lecturers
<b>860-0012-00L</b>	<b>Cooperation and Conflict Over International Water Resources</b> <i>Number of participants limited to 40. Priority for Science, Technology, and Policy MSc.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
	<i>This is a research seminar at the Master level. PhD students are also welcome.</i>								
860-0012-00 S	Cooperation and Conflict Over International Water Resources			2 hrs	Tue	12-14	LEE D105		<b>B. Wehrli</b> , T. Bernauer, E. Calamita, T. U. Siegfried

## ►► Prerequisites

*The definition of prerequisites is part of the admission procedure for the master studies. You are informed by the admission office as to what courses of the section «prerequisites» you have to catch up with. You are accredited for these courses in the electives block of the master studies.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0471-01L</b>	<b>Atmospheric Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-0471-01 G	Atmosphärenchemie			2 hrs	Wed	08-10	CHN F46		<b>M. Ammann</b> , T. Peter
<b>701-0473-00L</b>	<b>Weather Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-0473-00 G	Wettersysteme			2 hrs	Wed	14-16	CHN E46		<b>M. A. Sprenger</b> , F. Scholder- Aemisegger
<b>701-0475-00L</b>	<b>Atmospheric Physics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-0475-00 G	Atmosphärenphysik <i>Im Anschluss an die LV findet ein freiwilliges, einstündiges Tutorial im gleichen Raum (CHN F46) statt.</i>			2 hrs	Wed	10-12	CHN F46		<b>U. Lohmann</b>
<b>701-0461-00L</b>	<b>Numerical Methods in Environmental Sciences</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-0461-00 G	Numerische Methoden in der Umweltphysik			2 hrs	Thu	08-10	CHN E46		<b>C. Schär</b>

## ►► Additional Electives ETH

Number	Title	Type	ECTS	Hours					Lecturers
<b>651-4273-00L</b>	<b>Numerical Modelling in Fortran</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
651-4273-00 V	Numerical Modelling in Fortran			2 hrs	Mon	16-18	NO C6		<b>P. Tackley</b>
<b>701-1257-00L</b>	<b>European Climate Change</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1257-00 G	European Climate Change			2 hrs	Mon	10-12	LFO C13		<b>C. Schär</b> , J. Rajczak, S. C. Scherrer
<b>701-1281-00L</b>	<b>Self-Learning Course on Advanced Topics in Atmospheric and Climate Science (HS)</b> <i>Please contact one of the professors listed under prerequisites/notice if you plan to take this course.</i>	<b>W</b>	<b>3 credits</b>	<b>6A</b>					
	<i>Students are allowed to enroll in both courses 701-1280-00L &amp; 701-1281-00L Self-learning Course on Advanced Topics in Atmospheric and Climate Science but have to choose different supervisors.</i>								
701-1281-00 A	Self-Learning Course on Advanced Topics in Atmospheric and Climate Science ■			90s hrs	by appt.				Supervisors

## ► Minors

## ►► Minor in Physical Glaciology

Number	Title	Type	ECTS	Hours				Lecturers
101-0289-00L	Applied Glaciology	W	4 credits	2G				D. Farinotti, A. Bauder, M. Werder
101-0289-00 G	Applied Glaciology			2 hrs	Wed	08-10	HIL E8	
651-4101-00L	Physics of Glaciers	W	3 credits	3G				M. Lüthi, F. T. Walter, M. Werder
651-4101-00 G	Physics of Glaciers			3 hrs	Mon	12-15	ML E12	
651-4077-00L	Quantification and Modeling of the Cryosphere: Dynamic Processes (University of Zurich) <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO815</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	3 credits	1V				University lecturers
651-4077-00 V	Quantification and Modeling of the Cryosphere: Dynamic Processes (University of Zurich) <b>**Course at University of Zurich**</b>			1 hrs				
651-1581-00L	Seminar in Glaciology	W	3 credits	2S				
651-1581-00 S	Seminar in Glaciology <i>Format and topics will be introduced in the first session on 22 September 2021. Attendance is required.</i>			2 hrs	Wed	16-18	HPK D3	A. Bauder

## ►► Minor in Biogeochemistry

Number	Title	Type	ECTS	Hours					Lecturers
701-1313-00L	Isotopes and Biomarkers in Biogeochemistry	W	3 credits	2G					C. Schubert, R. Kipfer
701-1313-00 G	Isotopes and Biomarkers in Biogeochemistry			2 hrs	Tue	14-16	CHN F42		
701-1315-00L	Biogeochemistry of Trace Elements	W	3 credits	2G					A. Voegelin, S. Bouchet, L. Winkel
701-1315-00 G	Biogeochemistry of Trace Elements			2 hrs	Tue	10-12	LFV E41		
701-1341-00L	Water Resources and Drinking Water	W	3 credits	2G					S. Hug, M. Berg, F. Hammes, U. von Gunten
701-1341-00 G	Water Resources and Drinking Water			2 hrs	Fri	08-10	CAB G11		
	Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.								
701-1346-00L	Carbon Mitigation	W	3 credits	2G					N. Gruber
	Number of participants limited to 90. Priority is given to the target groups: Bachelor and Master Environmental Sciences and PHD Environmental Sciences until September 21st,2021. Waiting list will be deleted October 1st, 2021.								
701-1346-00 G	Carbon Mitigation			2 hrs	Mon	10-12	CHN C14		

## ►► Minor in Global Change and Sustainability

Number	Title	Type	ECTS	Hours				Lecturers
701-0015-00L	<b>Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement</b> <i>Number of participants limited to 20. Priority is given to PhD students D-USYS.</i>  <i>All participants will be on the waiting list at first. Enrollment is possible until 15 September 2021. The waiting list is active until 17 September. All students will be informed on 19 September, if they can participate in the lecture. The lecture takes place if a minimum of 12 students register for it..</i>	W	2 credits	2S				
701-0015-00 S	Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement <i>Irregular course</i>			2 hrs	Wed/2w	08-12	CHN K77	<b>M. Stauffacher</b> , C. E. Pohl, B. Vienni Baptista
701-1551-00L	<b>Sustainability Assessment</b> <i>Number of participants limited to 35.</i>  <i>Waiting list will be deleted October 1st, 2021.</i>	W	3 credits	2G				

No enrollment possible after October 1st, 2021.

701-1551-00 G	Sustainability Assessment			2 hrs	Fri	10-12	CHN G42	P. Krüttli, D. Nef
<b>860-0012-00L</b>	<b>Cooperation and Conflict Over International Water Resources</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
	<i>Number of participants limited to 40. Priority for Science, Technology, and Policy MSc.</i>							
	<i>This is a research seminar at the Master level. PhD students are also welcome.</i>							
860-0012-00 S	Cooperation and Conflict Over International Water Resources			2 hrs	Tue	12-14	LEE D105	B. Wehrli, T. Bernauer, E. Calamita, T. U. Siegfried

## ►► Minor in Sustainable Energy Use

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0731-00L</b>	<b>Power Market I - Portfolio and Risk Management</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0731-00 G	Power Market I - Portfolio and Risk Management			4 hrs	Tue	08-12	HG D7.1		D. Reichelt, G. A. Koeppel
<b>151-0209-00L</b>	<b>Renewable Energy Technologies</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0209-00 G	Renewable Energy Technologies			3 hrs	Tue	14-17	HG G5		A. Steinfeld, E. I. M. Casati
	<i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>								
<b>052-0609-00L</b>	<b>Energy- and Climate Systems I</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
052-0609-00 G	Energie- und Klimasysteme I			2 hrs	Fri	10-12	HIL E3		A. Schlüter
	<i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).</i>								

## ► Seminars and Colloquia

Number	Title	Type	ECTS	Hours					Lecturers
<b>651-4095-01L</b>	<b>Colloquium Atmosphere and Climate 1</b>	<b>O</b>	<b>1 credit</b>	<b>1K</b>					
651-4095-00 K	Colloquium Atmosphere and Climate			1 hrs	Mon	16-18	CAB G11		H. Joos, H. Wernli, D. N. Bresch, D. Domeisen, N. Gruber, R. Knutti, U. Lohmann, T. Peter, C. Schär, S. Schemm, S. I. Seneviratne, M. Wild
	<i>Contact person: Dr. Hanna Joos (IAC) hanna.joos@env.ethz.ch</i>								
<b>651-4095-02L</b>	<b>Colloquium Atmosphere and Climate 2</b>	<b>O</b>	<b>1 credit</b>	<b>1K</b>					
651-4095-00 K	Colloquium Atmosphere and Climate			1 hrs	Mon	16-18	CAB G11		H. Joos, H. Wernli, D. N. Bresch, D. Domeisen, N. Gruber, R. Knutti, U. Lohmann, T. Peter, C. Schär, S. Schemm, S. I. Seneviratne, M. Wild
	<i>Contact person: Dr. Hanna Joos (IAC) hanna.joos@env.ethz.ch</i>								
<b>651-4095-03L</b>	<b>Colloquium Atmosphere and Climate 3</b>	<b>O</b>	<b>1 credit</b>	<b>1K</b>					
651-4095-00 K	Colloquium Atmosphere and Climate			1 hrs	Mon	16-18	CAB G11		H. Joos, H. Wernli, D. N. Bresch, D. Domeisen, N. Gruber, R. Knutti, U. Lohmann, T. Peter, C. Schär, S. Schemm, S. I. Seneviratne, M. Wild
	<i>Contact person: Dr. Hanna Joos (IAC) hanna.joos@env.ethz.ch</i>								
<b>701-1211-01L</b>	<b>Master's Seminar: Atmosphere and Climate 1</b>	<b>O</b>	<b>3 credits</b>	<b>2S</b>					
	<i>Target groups only: Master Environmental Science Master Atmospheric and Climate Science</i>								
701-1211-01 S	Master's Seminar: Atmosphere and Climate	■		2 hrs	Mon	08-10	ML F40		H. Joos, R. Knutti, A. Merrifield Könz, M. A. Wüest
	<i>Permission from lecturers required for all students</i>								
<b>701-1211-02L</b>	<b>Master's Seminar: Atmosphere and Climate 2</b>	<b>O</b>	<b>3 credits</b>	<b>2S</b>					
	<i>Target groups only: Master Environmental Science Master Atmospheric and Climate Science</i>								
701-1211-01 S	Master's Seminar: Atmosphere and Climate	■		2 hrs	Mon	08-10	ML F40		H. Joos, R. Knutti, A. Merrifield Könz, M. A. Wüest
	<i>Permission from lecturers required for all students</i>								
<b>701-1213-00L</b>	<b>Introduction Course to Master Studies Atmosphere and Climate</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>					
701-1213-00 G	Introduction Course to Master Studies Atmosphere and Climate			30s hrs	16.09. 17.09.	08-17 08-17	CHN C14 CHN C14		H. Joos, T. Peter
	<i>3 day block course in the week before semester, from 15-17 September 2021.</i>								
	<i>More information at <a href="http://www.iac.ethz.ch/edu/courses/master/obligatory-courses/introduction-course.html">http://www.iac.ethz.ch/edu/courses/master/obligatory-courses/introduction-course.html</a>.</i>								

## ► Laboratory and Field Courses

The course in the category «lab and field work» are only offered in spring semester.

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
651-4275-00L	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>  <i>The master thesis is supervised by a professor of the D-ERDW or of the Institute for Atmosphere and Climate (IAC, D-USYS), a professor who teaches in the module subjects or a senior scientist who is on the list of "competent leaders of master theses" of the D-ERDW or of the D-USYS (associated with the IAC).</i> <a href="http://www.iac.ethz.ch/edu/master/master-thesis.html">http://www.iac.ethz.ch/edu/master/master-thesis.html</a>	O	30 credits	64D	
651-4275-00 D	Master's Thesis Atmospheric and Climate Science ■			900s hrs by appt.	Lecturers

## ► Course Units for Additional Admission Requirements

The courses below are only available for MSc students with additional admission requirements.

Number	Title	Type	ECTS	Hours	Lecturers
701-0412-AAL	<b>Climate Systems</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	
701-0412-AA R	Climate Systems <i>Self-study course. No presence required. Please contact Prof. Sonia Seneviratne for further information.</i>			90s hrs	S. I. Seneviratne
701-0471-AAL	<b>Atmospheric Chemistry</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	
701-0471-AA R	Atmospheric Chemistry <i>Self-study course. No presence required. Please contact Prof. Markus Ammann or Prof. Thomas Peter for further information.</i>			90s hrs	M. Ammann, T. Peter
701-0475-AAL	<b>Atmospheric Physics</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	
701-0475-AA R	Atmospheric Physics <i>Self-study course. No presence required. Please contact Prof. Ulrike Lohmann for further information.</i>			90s hrs	U. Lohmann
701-0473-AAL	<b>Weather Systems</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	
701-0473-AA R	Weather Systems <i>Self-study course. No presence required. Please contact Dr. Michael Sprenger for further information.</i>			90s hrs	M. A. Sprenger, F. Scholder-Aemisegger
701-0461-AAL	<b>Numerical Methods in Environmental Sciences</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	



701-0461-AA R	Numerical Methods in Environmental Sciences <i>Self-study course. Limited presence required. Please contact Prof. Christoph Schär for further information.</i>	90s hrs	C. Schär
<b>701-0106-AAL</b>	<b>Mathematics V: Applied Deepening of Mathematics I - III</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E- 3 credits 6R</b>	
701-0106-AA R	Mathematics V: Applied Deepening of Mathematics I - III <i>Self-study course. No presence required. Please contact Dr. Michael Sprenger for further information.</i>	90s hrs	M. A. Sprenger
<b>701-0071-AAL</b>	<b>Mathematics III: Systems Analysis</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E- 4 credits 9R</b>	
701-0071-AA R	Mathematics III: Systems Analysis <i>Self-study course. No presence required. Please contact Prof. Reto Knutti for further information.</i>	120s hrs	R. Knutti, H. Wernli

#### Atmospheric and Climate Science Master - Key for Type

Z	Courses outside the curriculum	W	Eligible for credits
Dr	Suitable for doctorate	O	Compulsory
W+	Eligible for credits and recommended	E-	Recommended, not eligible for credits

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Educational Science for Teaching Diploma and TC

These are the general course offerings of the programmes Teaching Diploma (TD) - categories Educational Science and Compulsory Elective Courses - and Teaching Certificate (TC) - category Educational Science.

## ► Educational Science Teaching Certificate

Number	Title	Type	ECTS	Hours					Lecturers
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V					
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1		<b>E. Stern</b>
851-0240-22L	<b>Coping with Psychosocial Demands of Teaching (EW4 DZ)</b> <i>Number of participants limited to 20.</i>  <i>The successful participation in EW1 ("Human Learning") and EW2 ("Designing Learning Environments for School") is recommended, but not a mandatory prerequisite.</i>	W	2 credits	3S					
851-0240-22 S	Bewältigung psychosozialer Anforderungen im Lehrberuf (EW4 DZ) ■			3 hrs	Tue	09-12	HG E33.1 HG F26.5 HG G26.1		<b>U. Markwalder</b> , S. Maurer, S. Peteranderl
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S					
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1		<b>R. Schumacher</b>
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S					
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40		<b>E. Stern</b>
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S					
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1		<b>P. Edelsbrunner</b> , T. Braas, C. M. Thurn
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S					
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114		<b>M. Berkowitz Biran</b> , T. Braas, C. M. Thurn

## ► Educational Science Teaching Diploma

Number	Title	Type	ECTS	Hours					Lecturers
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V					
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1		<b>E. Stern</b>
851-0238-01L	<b>Support and Diagnosis of Knowledge Acquisition Processes (EW3)</b> <i>Enrolment only possible with matriculation in Teaching Diploma (except for students of Sport Teaching Diploma, who complete the sport-specific course unit EW3) and for students who intend to enrol in the "Teaching Diploma".</i>  <i>Prerequisites: successful participation in 851-0240-00L "Human Learning (EW1)".</i>	O	3 credits	3S					
851-0238-01 S	Unterstützung und Diagnose von Wissenserwerbsprozessen (EW3) ■ <i>Bei grosser Anzahl an Teilnehmenden wird die Lehrveranstaltung in zwei Gruppen stattfinden.</i>			3 hrs	Tue	14-17	CHN D42 CHN D44		<b>P. Edelsbrunner</b> , J. Maue, C. M. Thurn
851-0242-01L	<b>Coping with Psychosocial Demands of Teaching (EW4)</b> <i>Enrolment possible with Teaching Diploma matriculation, except for students of Sport Teaching Diploma, who complete the sport-specific course unit EW4.</i>	O	3 credits	3S					
851-0242-01 S	Bewältigung psychosozialer Anforderungen im Lehrberuf (EW4) ■ <i>Für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			3 hrs	Tue	09-12	HG E33.1 HG F26.5 HG G26.1		<b>U. Markwalder</b> , S. Maurer, S. Peteranderl
851-0240-15L	<b>Designing Educational Environments in Physical Education (EW2 Sport)</b> <i>Compulsory course requirements for EW2 Sport: This course is required to be taken prior to EW4 Sport "Outdoor Education: Concepts and Practice" (851-0242-02L)</i>	O	4 credits	2S					
851-0240-15 S	Die Gestaltung schulischer Lernumgebungen im Sport (EW2 Sport) ■ <i>Unregelmässige Veranstaltung. Outdoor-Weekend: 2./3. 10.2021</i>  <i>Das-Outdoor-Weekend muss vollumfänglich besucht werden; max. 1 Absenz bei den übrigen Terminen</i>			28s hrs	Tue	18-20	LEE D101		<b>H. Gubelmann</b> , R. Scharpf
851-0240-19L	<b>Effective Learning Environments (EW 5)</b> <i>The successful completion of ALL modules relevant for the teacher's diploma is required for participation in this course.</i>	W	1 credit						
851-0240-19 U	Lernwirksam unterrichten (EW 5) ■ <i>Termin nach Vereinbarung Ort: RZ H 24</i>			1s hrs					<b>E. Stern</b>
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport). Number of participants limited to 30. This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S					
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung. An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40		<b>E. Stern</b>
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).  This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S					

851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>	2 hrs	Wed	18-20	ML H41.1	R. Schumacher
851-0229-00L	<b>Using Outdoor Education</b> <i>Number of participants limited to 40.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma Biology and Geography.</i>	W	1 credit	1S		
851-0229-00 S	Ausserschulische Lernorte nutzen ■ <i>Das erste Treffen findet in der 1. Semesterwoche statt. Details folgen.</i>	15s hrs				R. Schumacher, P. Faller
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S		
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11. An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>	21s hrs	Wed	12-15	LFW C1	P. Edelsbrunner, T. Braas, C. M. Thurn
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S		
851-0242-11 S	Gender Issues In Education and STEM ■	2 hrs	Thu	10-12	LEE C114	M. Berkowitz Biran, T. Braas, C. M. Thurn
851-0240-27L	<b>Supervising and Assessing Matura Theses</b> <i>Number of participants limited to 20.</i>  <i>Prerequisites: successful participation in 851-0240-00L "Human Learning (EW1)".</i>	W	1 credit	1V		
851-0240-27 V	Betreuung und Bewertung von Maturaarbeiten <i>Teilnahme am ersten Termin sowie an zwei Gastvorträgen (abhängig vom Unterrichtsfach) obligatorisch.</i>	1 hrs	Wed/2w	10-12 29.09. 10-12	IFW D42 IFW D42	J. Maue
851-0228-00L	<b>Formation of Knowledge in STEM Fields in Primary and Secondary School</b> <i>Enrolment only possible with matriculation in Teaching Diploma (excluding Teaching Diploma Sport).</i> <i>This course unit can only be enrolled after successful participation in the course 851-0240-00L "Human Learning (EW 1)", and only after successful participation in, or imultaneous enrolment in the course 851-0242-01L Coping with Psychosocial Demands of Teaching (EW4).</i>	W	2 credits	2S		
851-0228-00 S	Die Bildung von Wissen in MINT Fächern auf der Primar- und Sekundarstufe ■	2 hrs	17.09. 18.09.	09-16 09-16	HG G26.1 HG G26.1	U. Markwalder

### ► Compulsory Elective Courses Teaching Diploma

Number	Title	Type	ECTS	Hours	Lecturers
851-0237-01L	<b>Vocational Schools as Sites of Teaching and Learning I: Teaching Structure (University of Zürich)</b> <i>Enrolment only possible with Teaching Diploma matriculation.</i>  <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student.</i> <i>UZH Module Code: 090LLB1 (ATTENTION: Students of Sport Teaching Diploma enroll in course 090LLB1S)</i> <i>Simultaneous enrolment in course "Lehr- und Lernort Berufsfachschule II: Förderung und Unterstützung von Lernenden" (UZH Module Code: 090LLB2) is compulsory.</i>	W	3 credits	2S	

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>  
 ("Registering for studies at more than one university, Teaching Diploma",  
 Philosophische Fakultät)

851-0237-01 S Lehr- und Lernort Berufsfachschule, Teil 1: Unterrichtsgestaltung 2 hrs Thu 08-10 UNI ZH. University lecturers  
 (Universität Zürich)  
 \*\*Kurs an der Universität Zürich\*\*

**851-0237-02L Vocational Schools as Sites of Teaching W 3 credits 2S**  
**and Learning II: Providing**  
**Encouragement & Support (UZH)**  
 Enrolment only possible with Teaching  
 Diploma matriculation.

No enrolment to this course at ETH Zurich.  
 Book the corresponding module directly at  
 UZH as an incoming student.  
 UZH Module Code: 090LLB2

Simultaneous enrolment in course "Lehr-  
 und Lernort Berufsfachschule I:  
 Unterrichtsgestaltung" (UZH Module Code:  
 090LLB1) is compulsory.

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>  
 ("Registering for studies at more than one  
 university, Teaching Diploma",  
 Philosophische Fakultät)

851-0237-02 S Lehr- und Lernort Berufsfachschule, Teil 2: Förderung und 2 hrs Thu 10-12 UNI ZH. University lecturers  
 Unterstützung von Lernenden (UZH)  
 \*\*Kurs an der Universität Zürich\*\*

**851-0242-06L Cognitively Activating Instructions in W 2 credits 2S**  
**MINT Subjects**  
 Enrolment only possible with matriculation  
 in Teaching Diploma or Teaching  
 Certificate (excluding Teaching Diploma  
 Sport).

This course unit can only be enrolled after  
 successful participation in, or during  
 enrollment in the course "Human Learning  
 (EW 1)".

851-0242-06 S Kognitiv aktivierender Unterricht in den MINT-Fächern ■ 2 hrs Wed 18-20 ML H41.1 R. Schumacher  
 Unregelmässige Lehrveranstaltung; für eine reibungslose  
 Semesterplanung wird um frühe Anmeldung und persönliches  
 Erscheinen zum ersten Lehrveranstaltungstermin ersucht.

**851-0229-00L Using Outdoor Education W 1 credit 1S**  
 Number of participants limited to 40.

Enrolment only possible with matriculation  
 in Teaching Diploma Biology and  
 Geography.

851-0229-00 S Ausserschulische Lernorte nutzen ■ 15s hrs R. Schumacher, P. Faller  
 Das erste Treffen findet in der 1. Semesterwoche statt. Details  
 folgen.

**851-0242-07L Human Intelligence W 1 credit 1S**  
 Enrolment only possible with matriculation  
 in Teaching Diploma or Teaching  
 Certificate (excluding Teaching Diploma  
 Sport).  
 Number of participants limited to 30.  
 This course unit can only be enrolled after  
 successful participation in, or during  
 enrollment in the course "Human Learning  
 (EW 1)".

851-0242-07 S Menschliche Intelligenz 14s hrs Wed 16-18 ML F40 E. Stern  
 Unregelmässige Lehrveranstaltung.  
 An zwei Terminen findet die Lehrveranstaltung mit allen  
 TeilnehmerInnen statt und an den übrigen Terminen nur mit  
 einem Teil der Studierenden (Kleingruppen). Termine werden  
 gemeinsam vereinbart.

**851-0242-08L Research Methods in Educational W 1 credit 2S**  
**Science**  
 Number of participants limited to 30  
 This course unit can only be enrolled after  
 successful participation in, or during  
 enrollment in the course "Human Learning  
 (EW 1)".

851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>	21s hrs	Wed	12-15	LFW C1	<b>P. Edelsbrunner</b> , T. Braas, C. M. Thurn
<i>Zwei obligatorische Präsenztermine: 29.09. und 17.11. An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>						
<b>851-0242-11L</b>	<b>Gender Issues In Education and STEM</b> ■	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
<i>Number of participants limited to 30.</i>						
<i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>						
<i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>						
851-0242-11 S	Gender Issues In Education and STEM ■	2 hrs	Thu	10-12	LEE C114	<b>M. Berkowitz Biran</b> , T. Braas, C. M. Thurn
<b>851-0240-27L</b>	<b>Supervising and Assessing Matura Theses</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>		
<i>Number of participants limited to 20.</i>						
<i>Prerequisites: successful participation in 851-0240-00L "Human Learning (EW1)".</i>						
851-0240-27 V	Betreuung und Bewertung von Maturaarbeiten <i>Teilnahme am ersten Termin sowie an zwei Gastvorträgen (abhängig vom Unterrichtsfach) obligatorisch.</i>	1 hrs	Wed/2w 29.09.	10-12 10-12	IFW D42 IFW D42	<b>J. Maue</b>
<b>851-0252-12L</b>	<b>The Science of Learning From Failure</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
<i>Number of participants limited to 60.</i>						
851-0252-12 S	The Science of Learning From Failure <i>Groups are selected in myStudies. This seminar is an interactive course, thus attendance and classroom participation are required, especially the first two sessions are essential.</i>	2 hrs	Mon	16-18	HG D3.3 HG E33.3	<b>M. Kapur</b> , E. Ziegler
<i>The course is held as 2 separate courses with each a maximum of 30 students: one course in German and one in English.</i>						

#### Educational Science for Teaching Diploma and TC - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

## Civil Engineering (General Courses)

### ► Generally Accessible Seminars and Colloquia

Number	Title	Type	ECTS	Hours					Lecturers
101-1187-00L	Colloquium in Structural Engineering	E-	0 credits	1K					W. Kaufmann, E. Chatzi, A. Frangi, B. Stojadinovic, B. Sudret, A. Taras, M. Vassiliou
101-1187-00 K	Kolloquium Baustatik und Konstruktion <i>Programm nach Ankündigung.</i>			8s hrs	26.10.	17-19	HIL E3		
					16.11.	17-19	HIL E3		
					30.11.	17-19	HIL E3		
					07.12.	17-19	HIL E3		
101-1387-00L	Colloquia in Geotechnics	E-	0 credits	1K					A. Puzrin, G. Anagnostou, I. Anastasopoulos
101-1387-00 K	Kolloquien in Geotechnik <i>Die Veranstaltungen finden bis 4 mal pro Semester nach Vorankündigung statt. Da die Dozierenden aus dem In- und Ausland kommen, ist die Sprache Deutsch oder Englisch.</i>			12s hrs					

### Civil Engineering (General Courses) - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# Civil Engineering Bachelor

## ► First Year Compulsory Courses

## ►► First Year Examinations

In place of the German course 851-0703-03L Private Construction Law students can take the French course 851-0709-00L Introduction to Civil Law.

Number	Title	Type	ECTS	Hours				Lecturers
401-0241-00L	Analysis I	O	7 credits	5V+2U				
401-0241-00 V	Analysis I			5 hrs	Mon	08-10	ETF C1	M. Akveld
					Wed	08-10	HPH G2	
					Thu/2w	08-10	ETF C1	
401-0241-00 U	Analysis I Groups are selected in myStudies. Do 10-12 (ausser für Studiengang Umweltingenieurwissenschaften) oder Do 14-16 oder Do 16-18 gemäss Gruppeneinteilung (Übungen 252-0845-00 U Informatik I entsprechend umgekehrt Do 10-12 oder Do 14-16 oder Do 16-18). Zusätzlich wird ab der zweiten Semesterwoche ein StudyCenter gemeinsam für die Analysis I- und die Lineare Algebra-Vorlesung angeboten. Das StudyCenter findet montags von 18-20 Uhr sowie mittwochs von 16-18 Uhr statt. Infos zu den Räumen finden Sie auf der Moodle-Seite der Vorlesung.			2 hrs	Thu	10-12	CHN D48 LFW E13 ML J34.3 CHN D48 LFW C1 LFW E13 ML F40 ML H41.1 LFW C1 ML H41.1	M. Akveld
						14-16		
						16-18		
401-0141-00L	Linear Algebra	O	5 credits	3V+1U				
401-0141-00 V	Lineare Algebra			3 hrs	Wed	10-12	HPH G2	M. Akka Ginosar
					Thu/2w	08-10	ETF C1	
401-0141-00 U	Lineare Algebra Groups are selected in myStudies. Übungen Do 12-13 oder Do 13-14 gemäss Gruppeneinteilung. Zusätzlich wird ab der zweiten Semesterwoche ein StudyCenter gemeinsam für die Analysis I- und die Lineare Algebra-Vorlesung angeboten. Das StudyCenter findet montags von 18-20 Uhr sowie mittwochs von 16-18 Uhr statt. Infos zu den Räumen finden Sie auf der Moodle-Seite der Vorlesung.			1 hrs	Thu	12-13	CHN D42 CHN D48 HG E33.3 LFW C1 LFW E13 CHN D42 CHN D48 HG E33.3 LFW C1 LFW E13	M. Akka Ginosar
						13-14		
252-0845-00L	Computer Science I	O	5 credits	2V+2U				
252-0845-00 V	Informatik I			2 hrs	Mon	12-14	HG F1	C. Cotrini Jimenez, R. Sasse
252-0845-00 U	Informatik I Groups are selected in myStudies.			2 hrs	Thu	14-16	ETZ J91 HG E33.1 IFW C33 LFW C5 ON LINE CHN D46 ETZ G91 ETZ J91 HG E33.1 ON LINE	
						16-18		
151-0501-00L	Mechanics 1: Kinematics and Statics	O	5 credits	3V+2U				
151-0501-00 V	Mechanik 1: Kinematik und Statik Vorlesung: Mo ETA F 5 mit Videoübertragung ins ETF E 1 und HG E 5. Di ETA F 5 mit Videoübertragung ins ETF E 1 und HG E 3  In der ersten Semesterwoche fällt das Kolloquium aus und wird durch eine Doppelstunde Vorlesung Di 14-16 ersetzt.			3 hrs	Mon	10-12	ETA F5 ETF E1 HG E5 ETA F5 ETF E1 HG E3 ETA F5 ETF E1 HG E3	E. Mazza
					Tue	14-15		
					21.09.	14-16		
151-0501-00 U	Mechanik 1: Kinematik und Statik Groups are selected in myStudies. Die Übungen finden ab der 2. Semesterwoche statt.  Mi 14-16 für Bauingenieurwissenschaften Do 08-10 für Maschineningenieurwissenschaften  Zusätzlich wird das Study Center angeboten: Donnerstag 18-20 ab der 3. Semesterwoche im HG E 1.2, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.			2 hrs	Wed	14-16	CHN E42 HG D5.1 HG G26.5 LFW E13 NO E11 NO E39 CAB G51 CHN D44 CHN D48 ETZ E7 ETZ E9 ETZ F91 ETZ G91 ETZ H91 ETZ J91 ETZ K91 LFO C13 LFW B1 LFW B3 LFW C11 LFW C4 LFW C5	E. Mazza
					Thu	08-10		
651-0032-00L	Geology and Petrography	O	4 credits	2V+1U				
651-0032-00 V	Geologie und Petrographie			2 hrs	Fri	10-12	HPH G2	M. O. Saar, K. Rauchenstein



651-0032-00 U	Geologie und Petrographie <i>Groups are selected in myStudies. In Gruppen</i>		1 hrs	Fri/2w	12-14		HIL B18.2 HIL B18.2 HIL B21 HIL B21 HIL D10.2 HIL D10.2 HIL D53 HIL D53 HIL E10.1 HIL E10.1 HIL E5 HIL E5 14-16 HIL B18.2 HIL B18.2 HIL B21 HIL B21 HIL D10.2 HIL D10.2 HIL D53 HIL D53 HIL E10.1 HIL E10.1 HIL E5 HIL E5	<b>K. Rauchenstein</b>
<b>851-0703-03L</b>	<b>Private Construction Law</b> <i>Only for Civil Engineering BSc, Spatial Development and Infrastructure Systems MSc and UZH MNF Geographie/Erdsystemswissenschaften.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
851-0703-03 V	Privates Baurecht ■		2 hrs	Mon	16-18		HG F5	<b>T. Ender, E. Rüegg</b>
<b>851-0709-00L</b>	<b>Introduction to Civil Law</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
851-0709-00 V	Introduction au Droit civil <i>Mit Erklärungen auch in italienischer Sprache.</i>		2 hrs	Mon	18-20		HG F1	<b>H. Peter</b>
<b>►► Optional Colloquia</b>								
<b>151-0501-02L</b>	<b>Mechanics 1: Kinematics and Statics (Colloquium)</b>	<b>Z</b>	<b>0 credits</b>	<b>1K</b>				
151-0501-02 K	Mechanik 1: Kinematik und Statik (Kolloquium) <i>Di 15-16 im ETA F 5 mit Videoübertragung ins ETF E 1 und HG E 3</i>		1 hrs	Tue	15-16		ETA F5 ETF E1 HG E3	<b>R. Hopf</b>
<i>In der ersten Semesterwoche fällt das Kolloquium aus und wird durch eine Doppelstunde Vorlesung Di 14-16 ersetzt.</i>								
<b>► Compulsory Courses 3. Semester</b>								
<b>►► Examination Block 1</b>								
<b>401-0243-00L</b>	<b>Analysis III</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
401-0243-00 V	Analysis III		2 hrs	Tue	10-12		HPH G2	<b>M. Akka Ginosar</b>
401-0243-00 U	Analysis III <i>Groups are selected in myStudies. Mi 9-10 für Studiengang Raumbezogene Ingenieurwissenschaften. Fr 12-13 oder Fr 13-14 für Studiengang Bauingenieurwissenschaften gemäss Gruppeneinteilung.</i>		1 hrs	Wed Fri	09-10 12-13 13-14		NO C6 HIT F31.2 HIT H42 HIT F31.2 HIT F32 HIT H42	<b>M. Akka Ginosar</b>
<i>Zusätzlich wird das StudyCenter angeboten: weitere Angaben dazu folgen (ab der zweiten Semesterwoche)</i>								
<b>402-0023-01L</b>	<b>Physics</b>	<b>O</b>	<b>7 credits</b>	<b>5V+2U</b>				
402-0023-01 V	Physics		5 hrs	Wed Fri	10-12 09-12		HPH G3 HPH G3	<b>S. Johnson</b>
402-0023-01 U	Physics <i>Do 8-10 für Studiengang Bauingenieurwissenschaften Do 14-16 für Umweltingenieurwissenschaften</i>		2 hrs	Thu	08-10 14-16		HCI D4 HCI D6 HCI F8 HIL D60.1 HIT F31.1 HIT K51 HIT F31.2 HIT K51	<b>S. Johnson</b>
<b>101-0203-01L</b>	<b>Hydraulics I</b>	<b>O</b>	<b>5 credits</b>	<b>3V+1U</b>				
101-0203-01 V	Hydraulik I		3 hrs	Thu	10-13		HIL E1	<b>R. Stocker</b>

101-0203-01 U	Hydraulik I (in G) <i>Übungen Mi 08-09 oder 09-10 Uhr für Bauing und Umweltnaturwissenschaften</i> <i>Übungen Mi 12-13 oder 13-14 Uhr für Umweltingenieurwissenschaften</i>	1 hrs	Wed	08-09	HIL B18.2 HIL D60.1 HIL E5 HIL F10.3 HIL B18.2 HIL D60.1 HIL E5 HIL F10.3 HIL E9 HIL B21 HIL E9 HIL E9 HCI D8	R. Stocker
<b>151-0503-00L</b>	<b>Dynamics</b>	<b>O</b>	<b>6 credits</b>	<b>4V+2U</b>		
151-0503-00 V	Dynamics <i>The lectures will start in the 2nd week of the Semester.</i> <i>The Monday lectures are held in HG F 7 with video transmission to HG F 5.</i> <i>The Wednesday lectures are held in ML D 28 with video transmission to HCI G 7 (ETH Hönggerberg)</i>	4 hrs	Mon	14-16	HG F5 HG F7 HCI G7 ML D28	D. Kochmann
151-0503-00 U	Dynamics <i>Groups are selected in myStudies.</i> <i>The exercises will start in the 2nd week of the Semester:</i> <i>- Thursday 8-10 for Mechanical Engineering BSc</i> <i>- Friday 14-16 for Civil Engineering BSc</i>  <i>Zusätzlich wird das Study Center angeboten: Montags 18-20 Uhr ab der 3. Semesterwoche im HG E 1.1, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>	2 hrs	Thu	08-10	CAB G59 CHN E42 CHN F46 CHN G42 CHN G46 HG E21 HG E22 HG E33.1 HG E33.3 HG E33.5 HG G26.3 HG G26.5 LFW E13 ML H41.1 ML J34.1 ML J34.3 ON LINE ON LINE HIT F31.2 HIT H51 HIT J52 HIT J53 HIT K51 ON LINE	D. Kochmann
			Fri	14-16		

## ►► Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
101-0113-00L	Theory of Structures I <i>Only for Civil Engineering BSc.</i>	O	5 credits	3V+2U				
101-0113-00 V	Baustatik I			3 hrs	Tue	13-16	HIL E1	B. Sudret
101-0113-00 U	Baustatik I (in G)			2 hrs	Mon	10-12	HCI D6 HCI E2 HCI E8 HCI J8 HIL D60.1 HIT J53	B. Sudret

## ► Compulsory Courses 5. Semester

### ►► Examination Block 3

Number	Title	Type	ECTS	Hours				Lecturers	
101-0315-00L	Geotechnical Engineering	O	5 credits	4G					
101-0315-00 G	Grundbau			4 hrs	Mon Tue	14-16 16-18	HCI G7 HIL E1	A. Puzrin	
101-0135-01L	Steel Structures II	O	4 credits	4G					
101-0135-01 G	Stahlbau II <i>Vorlesung: Mo 10-12 und Mi 8-10 Übungen: Mo 10-12 (alternierend mit Vorlesung). Aufteilung Gruppen gemäss Angaben Dozent.</i>			4 hrs	Mon  Wed	10-12  08-10	HIL B18.2 HIL E10.1 HIL E4 HIL B21 HIL C10.2 HIL E3	A. Taras	
101-0415-01L	Public Transport and Railways	O	3 credits	2G					
101-0415-01 G	Public Transport and Railways			2 hrs	Fri	12-14	HIL E1	A. Nash, H. Orth, S. Schranil	
101-0031-01L	Systems Engineering	O	4 credits	4G					
101-0031-01 G	Systems Engineering <i>Vorlesung: Donnerstag Übung: Montag Fragestunde: Wird in der ersten Vorlesung bekanntgegeben  Online lecture: This lecture will primarily take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			4 hrs	Mon Thu	16-18 10-12	HIL E4 ETF C1	B. T. Adey	
102-0293-00L	Hydrology	O	3 credits	2G					

102-0293-00 G	Hydrology <i>Online event: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Tue	14-16	HIL E4	P. Burlando
---------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	-----	-------	--------	-------------

## ►► Examination Block 4

Number	Title	Type	ECTS	Hours				Lecturers
101-0125-00L	Structural Concrete I	O	5 credits	4G				W. Kaufmann
101-0125-00 G	Stahlbeton I			4 hrs	Tue Wed	10-12 10-12	HIL E3 HIL B21 HIL C10.2 HIL D10.2 HIL D60.1 HIL E10.1 HIL E4 HIL E5	

## ►► Additional Compulsory Courses

Number	Title	Type	ECTS	Hours				Lecturers
101-0007-01L	Project Work Conceptual Design	O	3 credits	3S				A. Taras, F. Ortiz Quintana
101-0007-01 S	Entwurf/Projektarbeit <i>Im Plenum: Mo 9-10 Gruppenarbeit: Do 14-16 oder Do 16-18 (nach Gruppeneinteilung).</i>			3 hrs	Mon Thu	09-10 14-16 16-18	HIL E4 HIL E7 HIL E4	
101-0615-01L	Materials Lab Exercises	O	4 credits	4P				R. J. Flatt, U. Angst, I. Burgert, D. Kammer, H. Richner, F. Wittel
101-0615-01 P	Werkstoffe Laborpraktikum <i>Permission from lecturers required for all students</i>			4 hrs	Wed	14-16 14-18	HIL E10.1 HIL E4	

## ► Bachelor's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
101-0006-10L	Bachelor's Thesis	O	8 credits	17D	Lecturers
101-0006-10 D	Bachelor-Arbeit ■			240s hrs by appt.	

## ► Recommended Courses

*No specific courses offered in HS21.*

## ► GESS Science in Perspective

*see GESS Science in Perspective:  
Language Courses ETH/UZH*

*see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended GESS Science in  
Perspective (Type B) for D-BAUG.*

## Civil Engineering Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS  
■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Civil Engineering Master

## ► Master Studies (Programme Regulations 2020)

### ►► 1. Semester

#### ►►► Seminar Work

Number	Title	Type	ECTS	Hours				Lecturers
<b>101-0007-00L</b>	<b>Project Management for Construction Projects</b>	<b>O</b>	<b>4 credits</b>	<b>3S</b>				
101-0007-00 S	Project Management for Construction Projects ■ <i>Online seminar: This seminar will primarily take place online (Zoom). Reserved rooms will remain blocked on campus for students to follow the seminar from there. The only exception will be the SkyRail exercises in December (2 groups: 10.12. or 17.12. from 12-17) which will be held face to face.</i>			3 hrs	Fri 10.12. 17.12.	13-16 11-17 11-17	HCI J7 HIT E51 HIT E51	<b>J. J. Hoffman</b>

#### ►►► Major Courses

##### ►►►► Major in Construction and Maintenance Management

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-8011-00L</b>	<b>Building Physics: Theory and Applications</b> <i>Enrolment after agreement with the lecturer only.</i>	<b>W</b>	<b>4 credits</b>	<b>3V+1U</b>				
151-8011-00 V	Building Physics: Theory and Applications <i>Permission from lecturers required for all students No course on 27.10.2021 (seminar week).</i>			3 hrs	Wed	13-16	HIL D10.2	<b>A. Kubilay</b> , X. Zhou
151-8011-00 U	Building Physics: Theory and Applications <i>Permission from lecturers required for all students No course on 27.10.2021 (seminar week). Online event: This event will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there</i>			1 hrs	Wed	17-18	HIL D10.2	<b>X. Zhou</b> , L. D'Amato, A. Kubilay, A. Rubin, D. A. Strebel
<b>066-0427-00L</b>	<b>Design and Building Process MIBS</b> <i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE. ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a></i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
066-0427-00 V	Design and Building Process MIBS <i>No course on 26.10. (seminar week).</i>			2 hrs	Tue	08-10	HCP E47.2	<b>A. Paulus</b>
<b>101-0427-01L</b>	<b>Public Transport Design and Operations</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
101-0427-01 G	Public Transport Design and Operations			4 hrs	Mon Thu	14-16 08-10	HIL E10.1 HIL E10.1	<b>F. Corman</b> , F. Leutwiler
<b>101-0509-00L</b>	<b>Infrastructure Management 1: Process</b>	<b>O</b>	<b>6 credits</b>	<b>3G</b>				
101-0509-00 G	Infrastructure Management 1: Process <i>Project: Mon 9-10 Lecture: Fr 10-12</i>			3 hrs	Mon Fri	09-10 10-12	HIL E1 HIL F10.3	<b>B. T. Adey</b>
<b>101-0517-10L</b>	<b>Construction Management for Tunneling</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0517-10 G	Baubetrieb im Untertagbau			2 hrs	Mon	14-16	HIL E1	<b>H. Ehrbar</b>
<b>101-0524-00L</b>	<b>Lean, Integrated and Digital Project Delivery</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
101-0524-00 G	Lean, Integrated and Digital Project Delivery			3 hrs	Mon 04.10. 11.10.	16-19 16-19 16-19	HPV G5 HIT E51 HIT E51	<b>D. Hall</b>
<b>101-0577-00L</b>	<b>An Introduction to Sustainable Development in the Built Environment</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
101-0577-00 G	An Introduction to Sustainable Development in the Built Environment			2 hrs	Tue	16-18	HIL E4	<b>G. Habert</b> , D. Kaushal

##### ►►►► Major in Geotechnical Engineering

Number	Title	Type	ECTS	Hours				Lecturers
<b>101-0317-00L</b>	<b>Tunnelling I</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
101-0317-00 G	Untertagbau I			2 hrs	Tue	10-12	HIL E7	<b>G. Anagnostou</b> , E. Pimentel
<b>101-0357-00L</b>	<b>Theoretical and Experimental Soil Mechanics</b> <i>Prerequisites: Mechanics I, II and III.</i>	<b>W+</b>	<b>6 credits</b>	<b>4G</b>				
	<i>The number of participants is limited to 60 due to the existing laboratory equipment! Students with major in Geotechnical Engineering have priority. Registrations will be accepted in the order they are received.</i>							

101-0357-01 G	Theoretical Soil Mechanics ■ <i>Permission from lecturers required for all students This course is offered together with Experimental Soil Mechanics.</i>		2 hrs	Tue	14-16	HIL E3	<b>I. Anastasopoulos</b> , R. Herzog, A. Marin, M. Schneider	
101-0357-02 G	Experimental Soil Mechanics ■ <i>Permission from lecturers required for all students This course is offered together with Theoretical Soil Mechanics.</i>		2 hrs	Fri	10-12	HIL E7	<b>I. Anastasopoulos</b> , R. Herzog, E. Korre	
<b>101-0307-00L</b>	<b>Design and Construction in Geotechnical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
101-0307-00 G	Design and Construction in Geotechnical Engineering ■ <i>Permission from lecturers required for all students</i>		3 hrs	Wed	13-16	HCI J7	<b>I. Anastasopoulos</b> , A. Marin	
<b>101-0369-00L</b>	<b>Forensic Geotechnical Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
<i>Prerequisites: successful participation in "Geotechnical Engineering" (101-0315-00L) or an equivalent course.</i>								
101-0369-00 G	Forensic Geotechnical Engineering <i>Permission from lecturers required for all students</i>		2 hrs	Mon	10-12	HIL E7	<b>A. Puzrin</b>	
<b>101-0517-10L</b>	<b>Construction Management for Tunneling</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0517-10 G	Baubetrieb im Untertagbau		2 hrs	Mon	14-16	HIL E1	<b>H. Ehrbar</b>	
<b>►►►► Major in Structural Engineering</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>			<b>Lecturers</b>	
<b>101-0117-00L</b>	<b>Theory of Structures III</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
101-0117-00 G	Theory of Structures III		2 hrs	Wed	14-16	HIL E3	<b>B. Stojadinovic</b>	
<b>101-0127-00L</b>	<b>Advanced Structural Concrete</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
101-0127-00 G	Advanced Structural Concrete		2 hrs	Thu	10-12	HIL E7	<b>J. Mata Falcón</b> , W. Kaufmann	
<b>101-0137-00L</b>	<b>Steel Structures III: Advanced Steel and Composite Structures</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
101-0137-00 G	Steel Structures III: Advanced Steel and Composite Structures		2 hrs	Wed	10-12	HIL E3	<b>A. Taras</b> , U. Angst	
<b>101-0187-00L</b>	<b>Structural Reliability and Risk Analysis</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0187-00 G	Structural Reliability and Risk Analysis		2 hrs	Fri	10-12	HCI J6	<b>S. Marelli</b>	
<b>101-0157-01L</b>	<b>Structural Dynamics and Vibration Problems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0157-01 G	Structural Dynamics and Vibration Problems		2 hrs	Tue	16-18	HCI J6	<b>M. Vassiliou</b> , V. Ntertimanis	
<b>151-8015-00L</b>	<b>Moisture Transport in Porous Media</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
151-8015-00 G	Moisture Transport in Porous Media <i>No course on 25.10 (seminar week) as well as 20.12.2021.</i>		2 hrs	Mon	10-12	HIL E6	<b>J. Carmeliet</b> , L. Fei, J. Huang, J. Zhao	
<b>101-0167-01L</b>	<b>Fibre Composite Materials in Structural Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0167-01 G	Fibre Composite Materials in Structural Engineering <i>The lecture will primarily take place online. The reserved room will remain blocked on campus for students to follow the lecture from there.</i>  <i>Labor exercises at Empa according to a separate program.</i>		2 hrs	Wed	16-18	HIL E7	<b>M. Motavalli</b>	
<b>101-0637-01L</b>	<b>Timber Structures I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
<i>Remark: Students in Civil Engineering must enrol this course as a year course Timber Structures I+II.</i>								
101-0637-01 G	Holzbau I		2 hrs	Tue	08-10	HIL E6	<b>A. Frangi</b> , I. Burgert, G. Fink, R. Steiger	
<b>052-0609-00L</b>	<b>Energy- and Climate Systems I</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
052-0609-00 G	Energie- und Klimasysteme I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).</i>		2 hrs	Fri	10-12	HIL E3	<b>A. Schlüter</b>	
<b>101-0617-02L</b>	<b>Computational Science Investigation for Material Mechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
101-0617-02 S	Computational Science Investigation for Material Mechanics		2 hrs	Wed	08-10	HIL E7	<b>D. Kammer</b> , F. Wittel	
<b>►►►► Major in Transport Systems</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>			<b>Lecturers</b>	
<b>101-0427-01L</b>	<b>Public Transport Design and Operations</b>	<b>O</b>	<b>6 credits</b>	<b>4G</b>				
101-0427-01 G	Public Transport Design and Operations		4 hrs	Mon Thu	14-16 08-10	HIL E10.1 HIL E10.1	<b>F. Corman</b> , F. Leutwiler	
<b>101-0437-00L</b>	<b>Traffic Engineering</b>	<b>O</b>	<b>6 credits</b>	<b>4G</b>				
101-0437-00 G	Traffic Engineering		4 hrs	Mon Tue	16-18 16-18	HIL D10.2 HIL D10.2	<b>A. Kouvelas</b>	
<b>101-0417-00L</b>	<b>Transport Planning Methods</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
101-0417-00 G	Transport Planning Methods		4 hrs	Mon Wed	10-12 10-12	HIL F36.1 HIL F36.1	<b>K. W. Axhausen</b>	
				22.09.	10-12	HCP E47.1		
				27.09.	10-12	HIL F10.3		
				29.09.	10-12	HCP E47.1		
				04.10.	10-12	HIL F10.3		
				06.10.	10-12	HCP E47.1		

<b>401-0647-00L</b>	<b>Introduction to Mathematical Optimization</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0647-00 V	Introduction to Mathematical Optimization			2 hrs	Tue	16-18	HG F5	<b>D. Adjashvili</b>	
401-0647-00 U	Introduction to Mathematical Optimization <i>Groups are selected in myStudies. Wed 12-13 or Wed 16-17</i>			1 hrs	Wed	12-13 16-17	HG D1.2 IFW A36 ON LINE	<b>D. Adjashvili</b>	
<b>103-0317-00L</b>	<b>Introduction to Spatial Development and Transformation</b> <i>Only for master students, otherwise a special permission by the lecturer is required.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
103-0317-00 G	Introduction to Spatial Development and Transformation			2 hrs	Tue	10-12	HIL E6	<b>M. Nollert, D. Kaufmann</b>	
<b>151-0227-00L</b>	<b>Basics of Air Transport (Aviation I)</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0227-00 G	Basics of Air Transport (Aviation I)			3 hrs	Wed	13-16	CAB G11	<b>P. Wild</b>	
<b>227-0523-00L</b>	<b>Railway Systems I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0523-00 G	Eisenbahn-Systemtechnik I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>			4 hrs	Fri	08-12	LFW C1	<b>M. Meyer</b>	
<b>101-0509-00L</b>	<b>Infrastructure Management 1: Process</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
101-0509-00 G	Infrastructure Management 1: Process <i>Project: Mon 9-10 Lecture: Fr 10-12</i>			3 hrs	Mon Fri	09-10 10-12	HIL E1 HIL F10.3	<b>B. T. Adey</b>	
<b>363-1047-00L</b>	<b>Urban Systems and Transportation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-1047-00 G	Urban Systems and Transportation <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	10-12	LFW B1	<b>G. Loumeau</b>	

### ►►►► Major in Hydraulic Engineering and Water Resources Management

Number	Title	Type	ECTS	Hours				Lecturers
<b>101-0247-01L</b>	<b>Hydraulic structures II</b> <i>Information: Enrolment of Hydraulic Engineering II is not recommended without having attended Hydraulic Engineering (101-0206-00L) previously since Hydraulic Engineering II is strongly based on Hydraulic Engineering (101-0206-00L).</i>	<b>O</b>	<b>6 credits</b>	<b>4G</b>				
101-0247-01 G	Wasserbau II <i>Lehrsprache vorrangig Deutsch, ausgewählte Veranstaltungen in Englisch.</i>			4 hrs	Mon Thu	10-12 08-10	HIL E1 HIL E9	<b>R. Boes</b>
<b>101-0267-01L</b>	<b>Numerical Hydraulics</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
101-0267-01 G	Numerical Hydraulics			2 hrs	Mon	14-16	HIL E6	<b>M. Holzner</b>
<b>102-0455-01L</b>	<b>Groundwater I</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
102-0455-01 G	Groundwater I <i>Exercises on Wednesdays, lecture on Fridays.</i>			3 hrs	Wed/2w Fri	16-18 10-12	CHN F46 HIL E8	<b>J. Jimenez-Martinez, M. Willmann</b>
<b>101-0258-00L</b>	<b>River Engineering</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
101-0258-00 G	River Engineering			2 hrs	Wed	16-18	HIL E8	<b>V. Weitbrecht, I. Schalko, K. Sperger</b>
<b>102-0468-10L</b>	<b>Watershed Modelling</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
102-0468-10 G	Watershed Modelling <i>Remark: New course replacing 102-0237-00 Hydrology II (until HS19) and 102-0468-00 Watershed Modeling (until FS20).</i>			4 hrs	Mon Wed	16-18 12-14	HIL E8 HIL E8	<b>P. Molnar</b>
<b>101-0250-00L</b>	<b>Solving Partial Differential Equations in parallel on GPUs</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
101-0250-00 G	Solving Partial Differential Equations in parallel on GPUs			3 hrs	Tue	13-16	HCI E8	<b>L. Räss, S. Omlin, M. Werder</b>

### ►►►► Major in Materials and Mechanics

Number	Title	Type	ECTS	Hours				Lecturers
<b>101-0677-00L</b>	<b>Concrete Technology</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
101-0677-00 G	Concrete Technology			2 hrs	Mon	16-18	HIL E9	<b>F. Constandopoulos, M. Bäuml, G. Martinola, T. Wangler</b>
<b>151-8015-00L</b>	<b>Moisture Transport in Porous Media</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
151-8015-00 G	Moisture Transport in Porous Media <i>No course on 25.10 (seminar week) as well as 20.12.2021.</i>			2 hrs	Mon	10-12	HIL E6	<b>J. Carmeliet, L. Fei, J. Huang, J. Zhao</b>
<b>151-0353-00L</b>	<b>Mechanics of Composite Materials</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0353-00 V	Mechanics of Composite Materials			2 hrs	Thu	09-11	ML F38	<b>P. Ermanni, G. Pappas, M. Sakovsky</b>
151-0353-00 U	Mechanics of Composite Materials			1 hrs	Thu	11-12	ML F38	<b>P. Ermanni, G. Pappas, M. Sakovsky</b>
<b>101-0617-01L</b>	<b>Advances in Building Materials</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>				
101-0617-01 G	Advances in Building Materials			2 hrs	Mon	14-16	HIL E7	<b>R. J. Flatt, I. Burgert</b>
<b>101-0617-02L</b>	<b>Computational Science Investigation for</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				

Material Mechanics								
101-0617-02 S	Computational Science Investigation for Material Mechanics		2 hrs	Wed	08-10	HIL E7	D. Kammer, F. Wittel	
►► 3. Semester								
►►► Major Courses								
►►►► Major in Construction and Maintenance Management								
Number	Title	Type	ECTS	Hours			Lecturers	
101-0549-00L	Selected Topics on Legal Aspects in Civil Engineering	W+	3 credits	2G				
101-0549-00 G	AK Baurecht			2 hrs	Wed	16-18	HIL E6	H. Briner, D. Trümpy
101-0587-00L	Workshop on Sustainable Building Certification	W+	3 credits	2G				
Number of participants limited to 25								
101-0587-00 G	Workshop on Sustainable Building Certification			2 hrs	Fri	10-12	HCP E47.1	D. Kellenberger
101-0507-00L	Infrastructure Management 3: Optimisation Tools	W+	6 credits	2G				
101-0507-00 G	Infrastructure Management 3: Optimisation Tools			2 hrs				
Does not take place this semester. Next time in HS22.								
101-0520-00L	Project Management: Project Execution to Closeout	W+	4 credits	2G				
101-0520-00 G	Project Management: Project Execution to Closeout			2 hrs	Fri	10-12	HCI J3	J. J. Hoffman
Online event: Will primarily take place online (Zoom). Reserved rooms will remain blocked on campus for students to follow the course from there.								
101-0608-00L	Design-Integrated Life Cycle Assessment	W	3 credits	2G				
101-0608-00 G	Design-Integrated Life Cycle Assessment			2 hrs	Tue	14-16	HPT C103	G. Habert
Former title: Building Materials and Sustainability								
101-0577-00L	An Introduction to Sustainable Development in the Built Environment	O	3 credits	2G				
101-0577-00 G	An Introduction to Sustainable Development in the Built Environment			2 hrs	Tue	16-18	HIL E4	G. Habert, D. Kaushal
101-0527-10L	Materials and Constructions	W	3 credits	2G				
101-0527-10 G	Materials and Constructions			2 hrs	Mon	08-10	HIL D10.2	G. Habert, D. Sanz Pont
►►►► Major in Geotechnical Engineering								
Number	Title	Type	ECTS	Hours			Lecturers	
101-0329-00L	Tunnelling III	W	4 credits	2G				
101-0329-00 G	Untertagbau III			2 hrs	Thu	10-12	HIL E6	G. Anagnostou, E. Pimentel, M. Ramoni
101-0339-00L	Environmental Geotechnics	W	3 credits	2G				
101-0339-00 G	Umweltgeotechnik			2 hrs	Tue	08-10	HIL E1	M. Plötze
101-0367-00L	Geotechnical Engineering in Transportation	W	3 credits	2G				
101-0367-00 G	Geotechnik der Verkehrswege			2 hrs	Fri	10-12	HIL E6	D. Hauswirth
►►►► Major in Structural Engineering								
Number	Title	Type	ECTS	Hours			Lecturers	
101-0119-00L	Structural Masonry	W	3 credits	2G				
101-0119-00 G	Mauerwerk			2 hrs	Wed	12-14	HIL E7	N. Mojsilovic
101-0129-00L	Non Destructive Evaluation & Rehabilitation of Existing Structures	W	3 credits	2G				
101-0129-00 G	Non Destructive Evaluation & Rehabilitation of Existing Structures			2 hrs	Mon	10-12	HPL D32	E. Chatzi, B. Herraiz Gómez, G. Kocur
Remark: Former title " Non Destructive Evaluation of Structures".								
101-0159-00L	Method of Finite Elements II	W	3 credits	2G				
101-0159-00 G	Method of Finite Elements II			2 hrs	Thu	14-16	HPT C103	E. Chatzi, K. Tatsis
101-0189-00L	Seismic Design of Structures II	W	3 credits	2G				
101-0189-00 G	Seismic Design of Structures II			2 hrs	Thu	16-18	HIL E6	B. Stojadinovic
101-0191-00L	Seismic and Vibration Isolation	W	2 credits	1G				
101-0191-00 G	Seismic and Vibration Isolation			1 hrs	Wed/1	10-12	HCP E47.2	M. Vassiliou
101-0123-00L	Structural Design	W	3 credits	2G				
101-0123-00 G	Structural Design			2 hrs	Thu	10-12	HPT C103	P. Ohlbrock, P. Block, J. Schwartz
101-0121-00L	Fatigue and Fracture in Materials and Structures	W	4 credits	3G				
101-0121-00 G	Fatigue and Fracture in Materials and Structures			3 hrs	Tue	10-13	HCI J6	E. Ghafoori, A. Taras
The lecture will primarily take place online. The reserved room will remain blocked on campus for students to follow the lecture from there.								
Remark: Includes a visit to Empa and laboratory tests by student at Empa laboratories.								

<b>101-0169-00L</b>	<b>Timber Structures III</b> <i>Prerequisite: Timber Structures I (101-0168-00L). Students who have not completed Holzbau I require a special permission from the lecturer.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0169-00 G	Holzbau III <i>Permission from lecturers required for all students</i>			2 hrs	Thu	08-10	HIL E7	<b>A. Frangi, R. Jockwer, M. Klippel, R. Steiger</b>	
<b>101-0120-00L</b>	<b>Structural Glass Design and Facade Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
101-0120-00 G	Structural Glass Design and Facade Engineering <i>1. half of the semester (weeks 1 to 7): lectures (theory) 2. half of the semester (weeks 8 to 14): group projects</i>			3 hrs	Wed/1 Wed/2	14-16 14-18	HIL B21 HIL B21	<b>V.-A. Silvestru</b>	
<b>101-0139-00L</b>	<b>Scientific Machine and Deep Learning for Design and Construction in Civil Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>4G</b>					
101-0139-00 G	Scientific Machine and Deep Learning for Design and Construction in Civil Engineering <i>14-16 theory 16-18 group work</i>			4 hrs	Mon	14-18	HPK D3	<b>M. A. Kraus, D. Griego</b>	

### ►►►► Major in Transport Systems

Number	Title	Type	ECTS	Hours				Lecturers	
<b>101-0469-00L</b>	<b>Road Safety</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0469-00 G	Strassenverkehrssicherheit: Grundlagen, Wirkungsweisen, Verfahren			4 hrs	Fri	14-18	HIL F10.3	<b>M. Deublein, P. Eberling</b>	
<b>103-0417-02L</b>	<b>Methodology of Planning Research and Practice</b> <i>Only for master students, otherwise a special permission by the lecturer is required.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
103-0417-02 G	Methoden der Planung in Forschung und Praxis			2 hrs	Wed	14-16	HIL D60.1	<b>A. Peric Momcilovic, T. B. Hug, R. Streit</b>	
<b>101-0491-00L</b>	<b>Agent Based Modeling in Transportation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0491-00 G	Agent Based Modeling in Transportation			4 hrs	Mon Tue	10-12 14-16	HPK D24.2 HPK D24.2	<b>M. Balac</b>	
<b>101-0492-00L</b>	<b>Microscopic Modelling and Simulation of Traffic Operations</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0492-00 G	Microscopic Modelling and Simulation of Traffic Operations			2 hrs	Thu	10-12	HIL G15.4	<b>M. Makridis</b>	
<b>101-0367-00L</b>	<b>Geotechnical Engineering in Transportation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0367-00 G	Geotechnik der Verkehrswege			2 hrs	Fri	10-12	HIL E6	<b>D. Hauswirth</b>	
<b>101-0507-00L</b>	<b>Infrastructure Management 3: Optimisation Tools</b>	<b>W</b>	<b>6 credits</b>	<b>2G</b>					
101-0507-00 G	Infrastructure Management 3: Optimisation Tools <i>Does not take place this semester. Next time in HS22.</i>			2 hrs				<b>B. T. Adey</b>	
<b>101-0419-02L</b>	<b>Railway Infrastructures 2</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
101-0419-02 G	Bahninfrastrukturen 2			2 hrs	Tue	16-18	HIL E6	<b>U. A. Weidmann, P. Güldenapfel, M. Kohler, M. J. Manhart</b>	

### ►►►► Major in Hydraulic Engineering and Water Resources Management

Number	Title	Type	ECTS	Hours				Lecturers	
<b>101-0249-00L</b>	<b>Hydraulic Engineering: Selected Topics</b> <i>Prerequisites: 101-0247-01L Hydraulic Engineering II or equivalent course.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
101-0249-00 S	Hydraulic Engineering: Selected Topics <i>Teaching language mainly English, selected lectures may be held in German. Former Title until HS19: Ausgewählte Kapitel aus dem Wasserbau (in German).</i>			2 hrs	Thu	16-18	HIL E7	<b>R. Boes</b>	
<b>101-0289-00L</b>	<b>Applied Glaciology</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
101-0289-00 G	Applied Glaciology			2 hrs	Wed	08-10	HIL E8	<b>D. Farinotti, A. Bauder, M. Werder</b>	
<b>101-1249-00L</b>	<b>Hydraulics of Engineering Structures</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-1249-00 G	Hydraulics of Engineering Structures			2 hrs	Tue	16-18	HIL E8	<b>I. Albayrak, F. Evers</b>	
<b>102-0215-00L</b>	<b>Urban Water Management II</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
102-0215-00 G	Siedlungswasserwirtschaft II			2 hrs	Tue	10-12	HIL E8	<b>M. Maurer, P. Staufer</b>	
<b>101-1250-00L</b>	<b>Management of Hillslope and Channel Processes</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
101-1250-00 V	Wildbach- und Hangverbau			2 hrs	Tue	14-16	HIL E8	<b>D. Rickenmann</b>	

### ►►►► Major in Materials and Mechanics

Number	Title	Type	ECTS	Hours				Lecturers	
--------	-------	------	------	-------	--	--	--	-----------	--



<b>101-0639-01L</b>	<b>Science and Engineering of Glass and Natural Stone in Construction</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0639-01 G	Science and Engineering of Glass and Natural Stone in Construction			2 hrs	Fri/1	08-12	HCI D4	<b>F. Wittel</b> , T. Wangler	
<b>101-0659-01L</b>	<b>Durability and Maintenance of Reinforced Concrete</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
101-0659-01 V	Durability and Maintenance of Reinforced Concrete			2 hrs	Tue	14-16	HIL E5	<b>U. Angst</b> , Z. Zhang	
<b>101-0689-00L</b>	<b>Shrinkage and Cracking of Concrete: Mechanisms and Impact on Durability</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
101-0689-00 V	Shrinkage and Cracking of Concrete: Mechanisms and Impact on Durability			2 hrs	Wed	10-12	HIL F10.3	<b>P. Lura</b> , M. Wyrzykowski	
<b>101-0637-10L</b>	<b>Wood Structure and Function</b> <i>Number of participants limited to 15.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0637-10 G	Wood Structure and Function			2 hrs	Wed	16-18	HIT J52	<b>I. Burgert</b> , G. von Arx	
<b>101-0637-20L</b>	<b>Fundamentals of Wood Elaboration and Woodmachining</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0637-20 G	Holzbearbeitung und -verarbeitung			2 hrs	Wed	14-16	HIT J52	<b>I. Burgert</b> , M. Schubert	
<b>101-0159-00L</b>	<b>Method of Finite Elements II</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0159-00 G	Method of Finite Elements II			2 hrs	Thu	14-16	HPT C103	<b>E. Chatzi</b> , K. Tatsis	

## ►► Projects

Number	Title	Type	ECTS	Hours	Lecturers				
<b>101-0198-10L</b>	<b>Project on Construction Engineering</b> <i>Only for Civil Engineering MSc, Programme Regulations 2020.</i>	<b>W</b>	<b>11 credits</b>	<b>24A</b>					
101-0198-10 A	Projektarbeit in Konstruktion ■			330s hrs	by appt.			Supervisors	
<b>101-0298-10L</b>	<b>Project on Hydraulic Engineering and Water Resources Management</b> <i>Only for Civil Engineering MSc, Programme Regulations 2020.</i>	<b>W</b>	<b>11 credits</b>	<b>24A</b>					
101-0298-10 A	Projektarbeit in Wasserbau und Wasserwirtschaft ■			330s hrs	by appt.			Supervisors	
<b>101-0398-10L</b>	<b>Project on Geotechnical Engineering</b> <i>Only for Civil Engineering MSc, Programme Regulations 2020.</i>	<b>W</b>	<b>11 credits</b>	<b>24A</b>					
101-0398-10 A	Projektarbeit in Geotechnik ■			330s hrs	by appt.			Supervisors	
<b>101-0498-10L</b>	<b>Project on Transport Systems</b> <i>Only for Civil Engineering MSc, Programme Regulations 2020.</i>	<b>W</b>	<b>11 credits</b>	<b>24A</b>					
101-0498-10 A	Projektarbeit Verkehrssysteme ■			330s hrs	by appt.			Supervisors	
<b>101-0598-10L</b>	<b>Project on Construction and Maintenance Management</b> <i>Only for Civil Engineering MSc, Programme Regulations 2020.</i>	<b>W</b>	<b>11 credits</b>	<b>24A</b>					
101-0598-10 A	Projektarbeit in Bau- und Erhaltungsmanagement ■			330s hrs	by appt.			Supervisors	
<b>101-0698-10L</b>	<b>Project on Materials and Mechanics</b> <i>Only for Civil Engineering MSc, Programme Regulations 2020.</i>	<b>W</b>	<b>11 credits</b>	<b>24A</b>					
101-0698-10 A	Projektarbeit Werkstoffe und Mechanik ■			330s hrs	by appt.			Supervisors	

## ►► Digitalisation Specific Courses

Number	Title	Type	ECTS	Hours	Lecturers				
<b>101-0524-00L</b>	<b>Lean, Integrated and Digital Project Delivery</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
101-0524-00 G	Lean, Integrated and Digital Project Delivery			3 hrs	Mon 04.10. 11.10.	16-19 16-19	HPV G5 HIT E51 HIT E51	<b>D. Hall</b>	
<b>101-0317-00L</b>	<b>Tunnelling I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0317-00 G	Untertagbau I			2 hrs	Tue	10-12	HIL E7	<b>G. Anagnostou</b> , E. Pimentel	
<b>101-0187-00L</b>	<b>Structural Reliability and Risk Analysis</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0187-00 G	Structural Reliability and Risk Analysis			2 hrs	Fri	10-12	HCI J6	<b>S. Marelli</b>	
<b>101-0437-00L</b>	<b>Traffic Engineering</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0437-00 G	Traffic Engineering			4 hrs	Mon Tue	16-18 16-18	HIL D10.2 HIL D10.2	<b>A. Kouvelas</b>	
<b>101-0417-00L</b>	<b>Transport Planning Methods</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0417-00 G	Transport Planning Methods			4 hrs	Mon Wed 22.09. 27.09. 29.09. 04.10. 06.10.	10-12 10-12 10-12 10-12 10-12	HIL F36.1 HIL F36.1 HCP E47.1 HIL F10.3 HCP E47.1 HIL F10.3 HCP E47.1	<b>K. W. Axhausen</b>	
<b>101-0491-00L</b>	<b>Agent Based Modeling in Transportation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					

101-0491-00 G	Agent Based Modeling in Transportation			4 hrs	Mon Tue	10-12 14-16	HPK D24.2 HPK D24.2	<b>M. Balac</b>
<b>101-0507-00L</b>	<b>Infrastructure Management 3: Optimisation Tools</b>	<b>W</b>	<b>6 credits</b>	<b>2G</b>				
101-0507-00 G	Infrastructure Management 3: Optimisation Tools <i>Does not take place this semester. Next time in HS22.</i>			2 hrs				<b>B. T. Adey</b>
<b>101-0267-01L</b>	<b>Numerical Hydraulics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0267-01 G	Numerical Hydraulics			2 hrs	Mon	14-16	HIL E6	<b>M. Holzner</b>
<b>101-0159-00L</b>	<b>Method of Finite Elements II</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0159-00 G	Method of Finite Elements II			2 hrs	Thu	14-16	HPT C103	<b>E. Chatzi, K. Tatsis</b>
<b>101-0617-02L</b>	<b>Computational Science Investigation for Material Mechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
101-0617-02 S	Computational Science Investigation for Material Mechanics			2 hrs	Wed	08-10	HIL E7	<b>D. Kammer, F. Wittel</b>
<b>101-0185-01L</b>	<b>CAD for Civil Engineers</b> <i>Number of participants is limited to 30. Point in time of enrolment of course is decisive.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
101-0185-01 G	CAD für Bauingenieure ■ <i>Permission from lecturers required for all students</i>			2 hrs	Mon	13-16	HIT K52	<b>K.-H. Hamel, F. Ortiz Quintana</b>
<b>101-0250-00L</b>	<b>Solving Partial Differential Equations in parallel on GPUs</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
101-0250-00 G	Solving Partial Differential Equations in parallel on GPUs			3 hrs	Tue	13-16	HCI E8	<b>L. Räss, S. Omlin, M. Werder</b>
<b>101-0139-00L</b>	<b>Scientific Machine and Deep Learning for Design and Construction in Civil Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>4G</b>				
101-0139-00 G	Scientific Machine and Deep Learning for Design and Construction in Civil Engineering <i>14-16 theory 16-18 group work</i>			4 hrs	Mon	14-18	HPK D3	<b>M. A. Kraus, D. Griego</b>
<b>101-0120-00L</b>	<b>Structural Glass Design and Facade Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
101-0120-00 G	Structural Glass Design and Facade Engineering <i>1. half of the semester (weeks 1 to 7): lectures (theory) 2. half of the semester (weeks 8 to 14): group projects</i>			3 hrs	Wed/1 Wed/2	14-16 14-18	HIL B21 HIL B21	<b>V.-A. Silvestru</b>
<b>101-0509-00L</b>	<b>Infrastructure Management 1: Process</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
101-0509-00 G	Infrastructure Management 1: Process <i>Project: Mon 9-10 Lecture: Fr 10-12</i>			3 hrs	Mon Fri	09-10 10-12	HIL E1 HIL F10.3	<b>B. T. Adey</b>
<b>101-0492-00L</b>	<b>Microscopic Modelling and Simulation of Traffic Operations</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0492-00 G	Microscopic Modelling and Simulation of Traffic Operations			2 hrs	Thu	10-12	HIL G15.4	<b>M. Makridis</b>
<b>101-0123-00L</b>	<b>Structural Design</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0123-00 G	Structural Design			2 hrs	Thu	10-12	HPT C103	<b>P. Ohlbrock, P. Block, J. Schwartz</b>

## ►► Project Based Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>101-0509-00L</b>	<b>Infrastructure Management 1: Process</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
101-0509-00 G	Infrastructure Management 1: Process <i>Project: Mon 9-10 Lecture: Fr 10-12</i>			3 hrs	Mon Fri	09-10 10-12	HIL E1 HIL F10.3		<b>B. T. Adey</b>
<b>101-0249-00L</b>	<b>Hydraulic Engineering: Selected Topics</b> <i>Prerequisites: 101-0247-01L Hydraulic Engineering II or equivalent course.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
101-0249-00 S	Hydraulic Engineering: Selected Topics <i>Teaching language mainly English, selected lectures may be held in German. Former Title until HS19: Ausgewählte Kapitel aus dem Wasserbau (in German).</i>			2 hrs	Thu	16-18	HIL E7		<b>R. Boes</b>
<b>101-0608-00L</b>	<b>Design-Integrated Life Cycle Assessment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0608-00 G	Design-Integrated Life Cycle Assessment <i>Former title: Building Materials and Sustainability</i>			2 hrs	Tue	14-16	HPT C103		<b>G. Habert</b>
<b>101-0329-00L</b>	<b>Tunnelling III</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
101-0329-00 G	Untertagbau III			2 hrs	Thu	10-12	HIL E6		<b>G. Anagnostou, E. Pimentel, M. Ramoni</b>
<b>101-0200-10L</b>	<b>Research-Focused Project Work</b>	<b>W</b>	<b>11 credits</b>	<b>24A</b>					
101-0200-10 A	Forschungsbezogene Projektarbeit ■ <i>Permission from lecturers required for all students</i>			330s hrs					Supervisors
<b>101-0139-00L</b>	<b>Scientific Machine and Deep Learning for Design and Construction in Civil Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>4G</b>					

101-0139-00 G	Scientific Machine and Deep Learning for Design and Construction in Civil Engineering 14-16 theory 16-18 group work			4 hrs	Mon	14-18	HPK D3	<b>M. A. Kraus</b> , D. Griego
<b>101-0357-00L</b>	<b>Theoretical and Experimental Soil Mechanics</b> <i>Prerequisites: Mechanics I, II and III.</i>  <i>The number of participants is limited to 60 due to the existing laboratory equipment! Students with major in Geotechnical Engineering have priority. Registrations will be accepted in the order they are received.</i>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
101-0357-01 G	Theoretical Soil Mechanics ■ <i>Permission from lecturers required for all students This course is offered together with Experimental Soil Mechanics.</i>			2 hrs	Tue	14-16	HIL E3	<b>I. Anastasopoulos</b> , R. Herzog, A. Marin, M. Schneider
101-0357-02 G	Experimental Soil Mechanics ■ <i>Permission from lecturers required for all students This course is offered together with Theoretical Soil Mechanics.</i>			2 hrs	Fri	10-12	HIL E7	<b>I. Anastasopoulos</b> , R. Herzog, E. Korre
<b>101-0520-00L</b>	<b>Project Management: Project Execution to Closeout</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>				
101-0520-00 G	Project Management: Project Execution to Closeout <i>Online event: Will primarily take place online (Zoom). Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	10-12	HCI J3	<b>J. J. Hoffman</b>
<b>101-0120-00L</b>	<b>Structural Glass Design and Facade Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
101-0120-00 G	Structural Glass Design and Facade Engineering 1. half of the semester (weeks 1 to 7): lectures (theory) 2. half of the semester (weeks 8 to 14): group projects			3 hrs	Wed/1 Wed/2	14-16 14-18	HIL B21 HIL B21	<b>V.-A. Silvestru</b>
<b>101-0250-00L</b>	<b>Solving Partial Differential Equations in parallel on GPUs</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
101-0250-00 G	Solving Partial Differential Equations in parallel on GPUs			3 hrs	Tue	13-16	HCI E8	<b>L. Räss</b> , S. Omlin, M. Werder
<b>101-0659-01L</b>	<b>Durability and Maintenance of Reinforced Concrete</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
101-0659-01 V	Durability and Maintenance of Reinforced Concrete			2 hrs	Tue	14-16	HIL E5	<b>U. Angst</b> , Z. Zhang
<b>101-0677-00L</b>	<b>Concrete Technology</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
101-0677-00 G	Concrete Technology			2 hrs	Mon	16-18	HIL E9	<b>F. Constandopoulos</b> , M. Bäuml, G. Martinola, T. Wangler
<b>101-0427-01L</b>	<b>Public Transport Design and Operations</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
101-0427-01 G	Public Transport Design and Operations			4 hrs	Mon Thu	14-16 08-10	HIL E10.1 HIL E10.1	<b>F. Corman</b> , F. Leutwiler
<b>101-0524-00L</b>	<b>Lean, Integrated and Digital Project Delivery</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
101-0524-00 G	Lean, Integrated and Digital Project Delivery			3 hrs	Mon 04.10. 11.10.	16-19 16-19 16-19	HPV G5 HIT E51 HIT E51	<b>D. Hall</b>
<b>101-0492-00L</b>	<b>Microscopic Modelling and Simulation of Traffic Operations</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0492-00 G	Microscopic Modelling and Simulation of Traffic Operations			2 hrs	Thu	10-12	HIL G15.4	<b>M. Makridis</b>
<b>101-0527-10L</b>	<b>Materials and Constructions</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0527-10 G	Materials and Constructions			2 hrs	Mon	08-10	HIL D10.2	<b>G. Habert</b> , D. Sanz Pont
<b>101-0587-00L</b>	<b>Workshop on Sustainable Building Certification</b> <i>Number of participants limited to 25</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0587-00 G	Workshop on Sustainable Building Certification			2 hrs	Fri	10-12	HCP E47.1	<b>D. Kellenberger</b>
<b>101-0123-00L</b>	<b>Structural Design</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0123-00 G	Structural Design			2 hrs	Thu	10-12	HPT C103	<b>P. Ohlbrock</b> , P. Block, J. Schwartz
<b>101-0267-01L</b>	<b>Numerical Hydraulics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0267-01 G	Numerical Hydraulics			2 hrs	Mon	14-16	HIL E6	<b>M. Holzner</b>

## ►► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers			
<b>101-0010-10L</b>	<b>Master's Thesis</b> <i>Only for Civil Engineering MSc, Programme Regulations 2020.</i>  <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>	<b>O</b>	<b>20 credits</b>	<b>43D</b>				

## ► Master Studies (Programme Regulations 2006)

### ►► 3. Semester

#### ►►► Projects

Number	Title	Type	ECTS	Hours	Lecturers
101-0198-01L	<b>Project on Construction Engineering</b> <i>Only for Civil Engineering MSc, Programme Regulations 2006.</i>	W	9 credits	19A	
101-0198-01 A	Projektarbeit in Konstruktion ■			270s hrs by appt.	Supervisors
101-0298-01L	<b>Project on Hydraulic Engineering and Water Resources Management</b> <i>Only for Civil Engineering MSc, Programme Regulations 2006.</i>	W	9 credits	19A	
101-0298-01 A	Projektarbeit in Wasserbau und Wasserwirtschaft ■			270s hrs by appt.	Supervisors
101-0398-01L	<b>Project on Geotechnical Engineering</b> <i>Only for Civil Engineering MSc, Programme Regulations 2006.</i>	W	9 credits	19A	
101-0398-01 A	Projektarbeit in Geotechnik ■			270s hrs by appt.	Supervisors
101-0498-01L	<b>Project on Transport Systems</b> <i>Only for Civil Engineering MSc, Programme Regulations 2006.</i>	W	9 credits	19A	
101-0498-01 A	Projektarbeit in Verkehrssysteme ■			270s hrs by appt.	Supervisors
101-0598-01L	<b>Project on Construction and Maintenance Management</b> <i>Only for Civil Engineering MSc, Programme Regulations 2006.</i>	W	9 credits	19A	
101-0598-01 A	Projektarbeit in Bau- und Erhaltungsmanagement ■			270s hrs by appt.	Supervisors
101-0698-01L	<b>Project on Materials and Mechanics</b> <i>Only for Civil Engineering MSc, Programme Regulations 2006.</i>	W	9 credits	18A	
101-0698-01 A	Projektarbeit in Werkstoffe und Mechanik ■			250s hrs by appt.	Supervisors

### ►► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
101-0010-00L	<b>Master's Thesis</b> <i>Only for Civil Engineering MSc, Programme Regulations 2006.</i>	O	24 credits	51D	
	<i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> a. successful completion of the bachelor programme; b. fulfilling of any additional requirements necessary to gain admission to the master programme.				
101-0010-00 D	Master-Arbeit ■ <i>Permission from lecturers required for all students</i>			720s hrs by appt.	Supervisors

### ► Electives

*The entire course programs of ETH Zurich and the University of Zurich are open to the students to individual selection.*

### ►► Electives ETH Zurich

*Course Catalogue of ETH Zurich*

### ►► Recommended Electives of Master Programme

Number	Title	Type	ECTS	Hours	Lecturers
363-1065-00L	<b>Design Thinking: Human-Centred Solutions to Real World Challenges</b>	W	5 credits	5G	
363-1065-00 G	Design Thinking: Human-Centred Solutions to Real World Challenges <i>Does not take place this semester. From FS22 in the spring semester.</i>			5 hrs	S. Brusoni
363-1047-00L	<b>Urban Systems and Transportation</b>	W	3 credits	2G	
363-1047-00 G	Urban Systems and Transportation <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs Thu 10-12 LFW B1	G. Loumeau
052-0707-00L	<b>Urban Design III</b>	W	2 credits	2V	
052-0707-00 V	Urban Design III <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs Thu 08-10 ONA E7	H. Klumpner, M. Fessel
101-0193-00L	<b>Systemic Design Labs: RE:GENERATE Alpine-Urban Circularity</b>	W	4 credits	2S	

## ► GESS Science in Perspective

see GESS Science in Perspective:  
 Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
 Enhancement of Reflection Capability

Recommended GESS Science in  
 Perspective (Type B) for D-BAUG.

## Civil Engineering Master - Key for Type

W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory
Z	Courses outside the curriculum	W+	Eligible for credits and recommended

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Biochemistry – Chemical Biology Bachelor

## ► Core Courses First Year Examination

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0011-02L</b>	<b>General Chemistry (Inorganic Chemistry) I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
529-0011-02 V	Allgemeine Chemie I (AC)			2 hrs	Tue	08-10	HCI G3		<b>A. Togni</b>
529-0011-02 U	Allgemeine Chemie I (AC) <i>Groups are selected in myStudies. oder nach Vereinbarung</i>			1 hrs	Mon	08-09	HCI D2 HCI H2.1 HCI H8.1 HCI J8 HIT F31.2 HIT H42 10-11 HCI D4 HCI F2 HIL C10.2 HIT F31.2 HIT H42 HCI H8.1		<b>A. Togni</b>
<b>529-0011-03L</b>	<b>General Chemistry (Organic Chemistry) I O</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
529-0011-03 V	Allgemeine Chemie I (OC)			2 hrs	Fri	08-10	HCI G7		<b>P. Chen</b>
529-0011-03 U	Allgemeine Chemie I (OC) <i>Groups are selected in myStudies. oder nach Vereinbarung</i>			1 hrs	Mon	09-10	HCI D2 HCI J6 HIT F31.2 HIT H42 11-12 HIL B21 HIL C10.2 HIT F31.2 HIT H42 Tue 13-14 HIT J53		<b>P. Chen</b>
<b>529-0011-01L</b>	<b>General Chemistry (Physical Chemistry) I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
529-0011-01 V	Allgemeine Chemie I (PC)			2 hrs	Wed	10-12	HG G5		<b>H. J. Wörner</b>
529-0011-01 U	Allgemeine Chemie I (PC) <i>Groups are selected in myStudies.</i>			1 hrs	Thu	12-13	HCI F8 HCI J6 HIT F31.1 HIT J52 13-14 HCI F8 18-19 HCI D8 HCI D6 HCI D8 HCI E2 HCI E8 HCI F2 HIL B21 HIL D10.2 HIT K51 HPK D24.2 12-13 HCI E2 HCI E8 HCI F2 20.09. 13-14 HCP E47.2		<b>H. J. Wörner</b>
<b>551-0125-00L</b>	<b>Fundamentals of Biology I: From Molecules to the Biochemistry of Cells</b>	<b>O</b>	<b>6 credits</b>	<b>5G</b>					
551-0125-00 G	Grundlagen der Biologie I: von Molekülen zur Biochemie der Zellen <i>Vorlesung: Montag 12-14 Uhr, Donnerstag 10-12 Uhr Übungen: Freitag 12-13 Uhr oder 13-14 Uhr</i>			5 hrs	Mon Thu Fri	12-14 10-12 12-13 13-14	HCI G7 HCI G7 HCI G7 HCI G7		<b>J. Vorholt-Zambelli, N. Ban, R. Glockshuber, K. Locher, J. Piel</b>
<b>401-0271-00L</b>	<b>Mathematical Foundations I: Analysis A</b>	<b>O</b>	<b>5 credits</b>	<b>3V+2U</b>					
401-0271-00 V	Grundlagen der Mathematik I (Analysis A)			3 hrs	Tue Wed	10-12 08-09	HIL E1 HG E5		<b>L. Keller</b>
401-0271-00 U	Grundlagen der Mathematik I (Analysis A) <i>Groups are selected in myStudies.</i>			2 hrs	Mon	08-10	HIL E7 HIT J51 HIT K51 HIT K52 10-12 HCI F8 HIT J51 HIT K51 HIT K52		<b>L. Keller</b>
<b>529-0001-00L</b>	<b>Introduction to Computer Science</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>					
529-0001-00 V	Informatik I			2 hrs	Thu	08-10	HIL E3		<b>P. H. Hünenberger</b>
529-0001-00 U	Informatik I			2 hrs	Tue	12-14	HCI D267.4 HIT F21 14-16 HCI D267.4 HIT F21 Thu 10-12 HCI D267.4 HIT F21 14-16 HCI D267.4 HIT F21 Fri 10-12 HCI D267.4 HIT F21		<b>P. H. Hünenberger</b>

► Second and Third Year Core Courses

►► Examination Blocks

►►► Examination Block 1

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0121-00L</b>	<b>Inorganic Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					<b>H. Grützmacher,</b> P. Steinegger  <b>H. Grützmacher,</b> P. Steinegger
529-0121-00 V	Anorganische Chemie I			2 hrs	Mon	08-10	HCI G3		
529-0121-00 U	Anorganische Chemie I			1 hrs	Tue	12-13	HCI D2 HCI D8 HCI E8 HCI F2 HCI F8 HCI J8		
<b>529-0221-00L</b>	<b>Organic Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					<b>H. Wennemers</b>  <b>H. Wennemers</b>
529-0221-00 V	Organische Chemie I			2 hrs	Wed	12-14	HCI G3		
529-0221-00 U	Organische Chemie I <i>Groups are selected in myStudies.</i>			1 hrs	Mon	12-13	HCI D6 HCI E8 HCI F8 HCI H2.1 HCI J8		
					Tue	08-09	HCI D8 HCI H2.1 HCI J3 HCI J8		
<b>529-0422-00L</b>	<b>Physical Chemistry II: Chemical Reaction Kinetics</b>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>					<b>F. Merkt, U. Hollenstein</b>  <b>F. Merkt, U. Hollenstein</b>
529-0422-00 V	Physikalische Chemie II: Chemische Reaktionskinetik			3 hrs	Tue Fri	09-10 10-12	HCI J3 HCI G3		
529-0422-00 U	Physikalische Chemie II: Chemische Reaktionskinetik <i>Groups are selected in myStudies.</i>			1 hrs	Mon	08-09	HCI D4 HCI D6 HCI E2 HCP E47.2		
					Tue	10-11	HCI D4 HCI D6 HCI E8 HCI F8		
						11-12	HCI D4 HCI D6 HCI E8		
<b>402-0043-00L</b>	<b>Physics I</b>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>					<b>J. Home</b>  <b>J. Home</b>
402-0043-00 V	Physics I (Physik I)			3 hrs	Tue Thu	16-17 16-18	HPH G2 HPH G2		
402-0043-00 U	Physik I <i>Di 17-18 für Studiengang Rechnergestützte Wissenschaften. Mi 9-10 (oder Di 17-18 als Ausweichtermin) für Studiengänge Chemie bzw. Chemieingenieurwissenschaften sowie Interdisziplinäre Naturwissenschaften. Mi 12-13 für Studiengang Raumbezogene Ingenieurwissenschaften. Do 10-11 für Studiengang Biochemie.</i>			1 hrs	Tue	17-18	HCI D2 HIT F31.1 HIT H51 HIT J51		
					Wed	09-10	CAB G52 HG E21 HG E22 HG E33.5 HG G26.3 ML H41.1 ML J34.1 ML J34.3		
					Thu	12-13 10-11	HG D3.2 HCI D6		
<b>401-0643-13L</b>	<b>Statistics II</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					<b>M. Kalisch</b>  <b>M. Kalisch</b>
401-0643-13 V	Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST) <i>Findet im HG F 1 mit Videoübertragung im HG F 3 statt.</i>			2 hrs	Wed	10-12	HG F1 HG F3		
401-0643-13 U	Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST) <i>Groups are selected in myStudies. Do 9-10, Do 12-13 oder Do 13-14 für Studiengang Gesundheitswissenschaften und Technologie. Do 9-10 für Studiengang Biochemie – Chemische Biologie. Do 8-9, Do 10-11 oder Do 11-12. für Studiengang Biologie. Do 8-9 oder Do 9-10 für Studiengang Pharmazeutische Wissenschaften.</i>			1 hrs	Thu	08-09	HCI H2.1 HCI H8.1 HCI H2.1 HCI H8.1 HCI H2.1 HCI H2.1 HCI J4 HCI J7 HIT H51		
						13-14	HCI J4 HCI J7 HIT H51 HIT F31.2 HIT F31.2		
<b>529-0051-00L</b>	<b>Analytical Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>					<b>D. Günther, M.-O. Ebert,</b> G. Schwarz, R. Zenobi
529-0051-00 G	Analytische Chemie I			3 hrs	Wed Thu	08-10 08-09	HCI G3 HPH G2		
<b>535-0521-00L</b>	<b>Pharmacology and Toxicology I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>					

## ▶▶▶ Examination Block 2

*Starting Autumn Semester 2022.*

### ▶ Laboratory Courses

Number	Title	Type	ECTS	Hours	Lecturers
529-0124-00L	BCB I: General Chemistry	O	6 credits	8P	H. V. Schönberg
529-0124-00 P	BCB I: Allgemeine Chemie <i>Ferienpraktikum nach dem 1. Semester, Woche 1-4 9-18 Uhr, oder alternativ während des 1. Semesters</i>			8 hrs	
529-0016-00L	BCB III: Organic Chemistry	O	8 credits	12P	J. W. Bode
529-0016-00 P	BCB III: Organische Chemie ■ <i>Das Praktikum findet am Montag und Dienstag um 12.45 statt.</i>			12 hrs	

### ▶ Block Courses

*Starting Autumn Semester 2022*

### ▶ Electives

*Course offerings from 3. year on (starting autumn semester 2022)*

### ▶ GESS Science in Perspective

#### ▶▶ Science in Perspective

*see Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended Science in Perspective  
(Type B) for D-CHAB*

#### ▶▶ Language Courses

*see Science in Perspective: Language  
Courses ETH/UZH*

### Biochemistry – Chemical Biology Bachelor - Key for Type

W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory
Z	Courses outside the curriculum	W+	Eligible for credits and recommended

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.



# Biology (General Courses)

## ► Complementary Courses

Number	Title	Type	ECTS	Hours					Lecturers
376-1791-00L	<b>Introductory Course in Neuroscience I (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: SPV0Y005</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	Z Dr	2 credits	2V					
376-1791-00 V	Introductory Course in Neuroscience I (University of Zurich) <b>**together with University of Zurich**</b>  <i>Kurs des Zentrums für Neurowissenschaften Zürich (ZNZ)</i>  <i>Beginn 20.09.2021</i>			2 hrs	Mon	16-18	UNI ZH.	University lecturers	
151-0927-00L	<b>Rate-Controlled Separations in Fine Chemistry</b>	Z Dr	6 credits	3V+1U					
151-0927-00 V	Rate-Controlled Separations in Fine Chemistry <i>The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.</i>			3 hrs	Thu	11-14	ML F34	<b>M. Mazzotti</b> , V. Becattini	
151-0927-00 U	Rate-Controlled Separations in Fine Chemistry <i>The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.</i>			1 hrs	Thu	14-15	ML F34	<b>M. Mazzotti</b> , V. Becattini	
401-0649-00L	<b>Applied Statistical Regression</b>	Z Dr	5 credits	2V+1U					
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon	08-10	HG E1.2	<b>M. Dettling</b>	
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>			1 hrs	Mon/2w	10-12	HG E1.2	<b>M. Dettling</b>	
551-1619-00L	<b>Structural Biology</b>	Z Dr	1 credit	1K					
551-1619-00 K	Strukturbiologie <i>Does not take place this semester. Raum: HPK D3, ETH-Hönggerberg</i>			1 hrs	by appt.				<b>R. Glockshuber</b> , F. Allain, N. Ban, K. Locher, M. Pilhofer, E. Weber-Ban, K. Wüthrich
851-0180-00L	<b>Research Ethics</b> <i>Number of participants limited to 40</i>  <i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>	Z Dr	2 credits	2G					
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1	<b>G. Achermann</b> , P. Emch	
376-1581-00L	<b>Cancer: Fundamentals, Origin and Therapy</b>	Z	2 credits	2G					
376-1581-00 G	Krebs: Grundlagen, Ursachen und Therapie			2 hrs	Tue	10-12	HG D7.2	<b>H. Nägeli</b>	
401-5640-00L	<b>ZüKoSt: Seminar on Applied Statistics</b>	Z Dr	0 credits	1K					
401-5640-00 K	ZüKoSt: Seminar on Applied Statistics <b>**gemeinsam mit der Universität Zürich**</b>  <i>Zeit: 15:15-16:30</i> <i>Nach besonderem Programm gemäss Ankündigung, Koordination M. Kalisch Tel. 044 632 3435</i>			10s hrs	Fri	15-17	HG G19.1	<b>M. Kalisch</b> , F. Balabdaoui, A. Bandeira, P. L. Bühlmann, R. Furrer, L. Held, T. Hothorn, M. H. Maathuis, M. Mächler, L. Meier, M. Robinson, C. Strobl, S. van de Geer	
551-1109-00L	<b>Seminars in Microbiology</b>	Z Dr	0 credits	2K					
551-1109-00 K	Seminars in Microbiology <i>In autumn semester 2021, the seminar will be conducted hybrid, some seminar units will only take place via Zoom and others on site with a parallel broadcasting. Information on the individual seminar units can be found at <a href="https://micro.biol.ethz.ch/events/microbiology-seminars.html">https://micro.biol.ethz.ch/events/microbiology-seminars.html</a>.</i>			2 hrs	Wed	16-18 03.01.- 04.02.	HCI J7 HCI J3	<b>S. Sunagawa</b> , W.-D. Hardt, M. Künzler, J. Piel, J. Vorholt-Zambelli	
401-0620-00L	<b>Statistical Consulting</b>	Z Dr	0 credits	0.1K					
401-0620-00 K	Statistischer Beratungsdienst <i>Web: <a href="http://stat.ethz.ch/consulting">http://stat.ethz.ch/consulting</a></i> <i>E-Mail: <a href="mailto:beratung@stat.math.ethz.ch">beratung@stat.math.ethz.ch</a></i> <i>Tel: 044 632 2223</i>			0.1 hrs	by appt.				<b>M. Kalisch</b> , <b>L. Meier</b>
551-0512-00L	<b>Current Topics in Molecular and Cellular Neurobiology</b> <i>Number of participants limited to 8.</i>	Z Dr	2 credits	1S					
551-0512-00 S	Current Topics in Molecular and Cellular Neurobiology <i>Does not take place this semester. Permission from lecturers required for all students</i> <i>This course may be taken only once, either in the spring semester or in the autumn semester.</i>			1 hrs					<b>U. Suter</b>

<b>551-0737-00L</b>	<b>Ecology and Evolution: Interaction Seminar</b>	<b>Z</b>	<b>2 credits</b>	<b>2S</b>						
551-0737-00 S	Ecology and Evolution: Interaction Seminar ■			2 hrs	by appt.					<b>S. Bonhoeffer</b>
<b>551-0509-00L</b>	<b>Current Immunological Research in Zurich</b>	<b>Z Dr</b>	<b>0 credits</b>	<b>1K</b>						
551-0509-00 K	Current Immunological Research in Zurich			12s hrs	by appt.					<b>R. Spörri, M. Detmar, C. Halin Winter, W.-D. Hardt, M. Kopf, S. R. Leibundgut, A. Oxenius, University lecturers</b>
<b>551-1106-00L</b>	<b>Progress Reports in Microbiology and Immunology</b> <i>Students must sign up via secr.micro.biol.ethz.ch</i>	<b>Z Dr</b>	<b>0 credits</b>	<b>5S</b>						
551-1106-00 S	Progress Reports in Microbiology and Immunology			5 hrs	Fri 03.01.-18.02.	08-13 08-13	HCP E47.4 HPK D24.2			<b>J. Piel, W.-D. Hardt, A. Oxenius, J. Vorholt-Zambelli</b>
<b>551-0209-00L</b>	<b>Sustainable Plant Systems (Seminar)</b>	<b>Z Dr</b>	<b>2 credits</b>	<b>2S</b>						
551-0209-00 S	Sustainable Plant Systems (Seminar) <i>**together with University of Zurich and University of Basel** Presence days: 7. october &amp; 3. december 2021 14:00 - 18:00</i>			2 hrs	07.10.	14-18	LFW B2			<b>M. Paschke, F. Liebisch, further lecturers</b>
<b>551-0120-00L</b>	<b>Plant Biology Colloquium (Autumn Semester)</b> <i>This compulsory course is required only once. It may be taken in autumn as course 551-0120-00 "Plant Biology Colloquium (Autumn Semester)" or in spring as course 551-0120-01 "Plant Biology Colloquium (Spring Semester)".</i>	<b>Z</b>	<b>2 credits</b>	<b>1K</b>						
551-0120-00 K	Plant Biology Colloquium (Autumn Semester)			1 hrs	Tue 03.01.-18.02.	16-17 17-18	LFW C5 CAB G51			<b>C. Sánchez-Rodríguez, A. Rodríguez-Villalon, O. Voinnet, S. C. Zeeman</b>
<b>551-1615-00L</b>	<b>NMR Methods for Studies of Biological Macromolecules</b> <i>Prerequisites: Basic knowledge in biological NMR spectroscopy.</i>	<b>Z</b>	<b>1 credit</b>	<b>2S</b>						
551-1615-00 S	NMR Methods for Studies of Biological Macromolecules			2 hrs	Wed	14-16	HPK D3			<b>A. D. Gossert</b>
<b>551-1713-00L</b>	<b>Current Topics in Molecular Health Sciences</b>	<b>Z</b>	<b>0 credits</b>	<b>2S</b>						
551-1713-00 S	Current Topics in Molecular Health Sciences ■ <i>Permission from lecturers required for all students</i>			2 hrs	Mon 03.01.-18.02.	16-18 16-18	HPL D32 HPL D34 HPL D32 HPL D34			<b>I. Zanini, further lecturers</b>
<b>402-0368-07L</b>	<b>Lecture Series: Space Research and Exploration</b>	<b>Dr, Z</b>	<b>1 credit</b>	<b>2V</b>						
402-0368-07 V	Lecture Series: Space Research and Exploration			2 hrs	Tue 21.09.	12-14 12-14	HG F7 HPT C103			<b>S. P. Quanz</b>

#### Biology (General Courses) - Key for Type

W+	Eligible for credits and recommended	W	Eligible for credits
Dr	Suitable for doctorate	E-	Recommended, not eligible for credits
O	Compulsory	Z	Courses outside the curriculum

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Biology Bachelor

## ► Bachelor Studies (Programme Regulations 2020)

### ►► First Year Courses

### ►►► First Year Examinations

### ►►►► First Year Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-0125-00L</b>	<b>Fundamentals of Biology I: From Molecules to the Biochemistry of Cells</b>	<b>O</b>	<b>6 credits</b>	<b>5G</b>				
551-0125-00 G	Grundlagen der Biologie I: von Molekülen zur Biochemie der Zellen <i>Vorlesung: Montag 12-14 Uhr, Donnerstag 10-12 Uhr Übungen: Freitag 12-13 Uhr oder 13-14 Uhr</i>			5 hrs	Mon Thu Fri	12-14 10-12 12-13 13-14	HCI G7 HCI G7 HCI G7 HCI G7	<b>J. Vorholt-Zambelli</b> , N. Ban, R. Glockshuber, K. Locher, J. Piel
<b>529-1001-01L</b>	<b>General Chemistry (for Biol./Pharm.Sc.)</b>	<b>O</b>	<b>4 credits</b>	<b>4V+2U</b>				
529-1001-01 V	Allgemeine Chemie (für Biol./Pharm.Wiss./HST) <i>Di 10-12 Uhr im HG F1 mit Videoübertragung ins HG F3 Do 8-10 Uhr im HCI G3 mit Videoübertragung ins HCI G7</i>			4 hrs	Tue Thu	10-12 08-10	HG F1 HG F3 HCI G3 HCI G7	<b>J. Cvengros</b>
529-1001-01 U	Allgemeine Chemie (für Biol./Pharm.Wiss.) <i>Die Übungen beginnen erst in der zweiten Woche, sind fakultativ und wie folgt vorgesehen: Pharma: Mi 8-10 BIOL: Fr 8-10</i>			2 hrs	Wed Fri	08-10 08-10	HCI D2 HCI H8.1 HCI J4 HCI D8 HIT H42 HPT C103	<b>J. Cvengros</b>
<b>529-1011-00L</b>	<b>Organic Chemistry I (for Biol./Pharm.Sc./HST)</b>	<b>O</b>	<b>4 credits</b>	<b>4G</b>				
529-1011-00 G	Organische Chemie I (für Biol./Pharm.Wiss./HST) <i>Groups are selected in myStudies. Vorlesung: Mi 10-12 Uhr im HCI G3 mit Videoübertragung ins HCI G7 In den ersten beiden Wochen findet auch Fr 14-16 Vorlesung im HPH G 1 statt.  Die Übungen beginnen in der dritten Semesterwoche und sind wie folgt vorgesehen: Fr 14-16 oder 16-18 Uhr (nach Einteilung).</i>			4 hrs	Wed Fri	10-12 14-16	HCI G3 HCI G7 HCI D2 HCI D4 HCI D6 HCI D8 HCI E2 HCI E8 HCI F2 HCI F8 HCI G7 HPK D24.2 HPV G4 HPV G5 16-18 HCI D2 HCI D4 HCI D6 HCI D8 HCI E2 HCI E8 HCI F2 HCI F8 HCI G7 HPK D24.2 HPV G4 HPV G5 24.09. 14-16 01.10. 14-16 HPH G1 HPH G1	<b>C. Thilgen</b>

### ►►►► First Year Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>402-0073-00L</b>	<b>Physics I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+2U</b>				
402-0073-00 V	Physik I			2 hrs	Mon	14-16	HPH G2	<b>T. M. Ihn</b>
402-0073-00 U	Physik I			2 hrs	Mon	16-18	HCI E2 HCI H2.1 HCP E47.2 HIL E10.1 HIT F32 HIT J51 HIT J52 HIT J53 HIT K51 HIT K52 HPK D24.2	<b>T. M. Ihn</b>
<b>401-0291-00L</b>	<b>Mathematics I</b>	<b>O</b>	<b>6 credits</b>	<b>4V+2U</b>				
401-0291-00 V	Mathematik I <i>Vorlesung im HG F7 mit Videoübertragung ins HG F5.</i>			4 hrs	Mon Tue	08-10 08-10	HG F5 HG F7 HG F5 HG F7	<b>A. Caspar</b>

►►► **First Year Laboratory Courses**

## ►► Second Year Courses

Data: 29.09.2021 12:38      Autumn Semester 2021      Page 76 of 805

252-0852-00 U	Grundlagen der Informatik <i>Es gibt keine fixen Übungsgruppen. Stattdessen besprechen die Studierenden alle 2 Wochen eine Projektaufgabe individuell mit einer Assistenzperson. Die restlichen Zeiten stehen für die Bearbeitung der Projektaufgaben zur Verfügung.</i>	O	3 credits	2 hrs	Mon	10-12	CAB H56 CAB H57 HG E26.1 HG E26.3 HG E27	L. E. Fässler, M. Dahinden
						16-18	CAB H56 CAB H57 HG E19 HG E26.1 HG E26.3	
					Wed	18-19	HG E19 HG E26.1 HG E26.3 HG E27	
					Fri	16-18	HG D12	
<b>401-0643-13L</b>	<b>Statistics II</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
401-0643-13 V	Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST) <i>Findet im HG F 1 mit Videoübertragung im HG F 3 statt.</i>			2 hrs	Wed	10-12	HG F1 HG F3	<b>M. Kalisch</b>
401-0643-13 U	Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST) <i>Groups are selected in myStudies. Do 9-10, Do 12-13 oder Do 13-14 für Studiengang Gesundheitswissenschaften und Technologie. Do 9-10 für Studiengang Biochemie – Chemische Biologie. Do 8-9, Do 10-11 oder Do 11-12. für Studiengang Biologie. Do 8-9 oder Do 9-10 für Studiengang Pharmazeutische Wissenschaften.</i>			1 hrs	Thu	08-09	HCI H2.1 HCI H8.1	<b>M. Kalisch</b>
						09-10	HCI H2.1 HCI H8.1 HCI H2.1	
						10-11	HCI H2.1	
						11-12	HCI H2.1	
						12-13	HCI J4 HCI J7 HIT H51	
						13-14	HCI J4 HCI J7 HIT H51	
					Fri	10-11	HIT F31.2	
						11-12	HIT F31.2	
<b>529-0015-00L</b>	<b>Physical Chemistry</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
529-0015-00 V	Physikalische Chemie <i>Vorlesung: Di 8-10 Übungen: Do 9-10</i>			2 hrs	Tue	08-10	HIL E8	<b>G. Jeschke, D. Klose</b>
529-0015-00 U	Physikalische Chemie <i>Vorlesung: Di 8-10 Übungen: Do 9-10</i>			1 hrs	Thu	09-10	HCI E2 HCP E47.4 HIL C10.2 HIL D10.2 HIL F10.3 HPK D24.2	<b>G. Jeschke</b>
						23.09.	09-10 HCI E8	
<b>529-0229-00L</b>	<b>Practical Course Organic Chemistry (for Students of Biology and Pharmaceutical Sciences)</b> <i>Latest online enrolment is 10 days before the beginning of the semester. Students who did not pass the first-year examinations need the lecturers' written permission to take this course.</i>	<b>O</b>	<b>8 credits</b>	<b>12P</b>				
529-0229-00 P	Praktikum Organische Chemie (für Biol./Pharm.Wiss.) <i>Permission from lecturers required for all students Vorbesprechungstermin und weitere Informationen werden im Moodle-Kurs bekanntgegeben. Arbeitsbeginn jeweils zur vollen Stunde (s.t.).  Further information such as date, time, and place of the introductory lecture: see Moodle course. The lab always starts at the top of the hour (s.t.).</i>			12 hrs	Tue	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	<b>C. Thilgen, Y. Yamakoshi</b>
					Wed	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	
					Thu	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	
					Fri	12-18	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	
						23.09.	16-19 HCI G3	
						28.09.	13-14 HCI D2	
						30.09.	14-18 HCI E2	
						01.10.	13-18 HCI E2	

## ► Bachelor Studies (Programme Regulations 2013)

### ►► 2. Year, 3. Semester

#### ►►► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers
551-1003-00L	Methods of Biological Analysis <i>Only for Biologie BSc, Programme</i>	O	3 credits	3G	

529-1042-00 G	<p><i>Regulations 2013.</i></p> <p>Analytik  <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich.</i>  <i>Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.</i></p> <p><i>Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.</i></p>		1.5 hrs					to be announced
551-1003-00 G	<p>Methoden der Biologischen Analytik  <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich.</i>  <i>Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.</i></p> <p><i>Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.</i></p>		1.5 hrs					P. Picotti, K. Weis
<b>401-0643-13L</b>	<b>Statistics II</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
401-0643-13 V	<p>Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST)  <i>Findet im HG F 1 mit Videoübertragung im HG F 3 statt.</i></p>		2 hrs	Wed	10-12	HG F1 HG F3		M. Kalisch
401-0643-13 U	<p>Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST)  <i>Groups are selected in myStudies.</i>  <i>Do 9-10, Do 12-13 oder Do 13-14 für Studiengang Gesundheitswissenschaften und Technologie.</i>  <i>Do 9-10 für Studiengang Biochemie – Chemische Biologie.</i>  <i>Do 8-9, Do 10-11 oder Do 11-12. für Studiengang Biologie.</i>  <i>Do 8-9 oder Do 9-10 für Studiengang Pharmazeutische Wissenschaften.</i></p>		1 hrs	Thu	08-09 09-10 10-11 11-12 12-13 13-14	HCI H2.1 HCI H8.1 HCI H2.1 HCI H8.1 HCI H2.1 HCI H2.1 HCI J4 HCI J7 HIT H51 HCI J4 HCI J7 HIT H51		M. Kalisch
				Fri	10-11 11-12	HIT F31.2 HIT F31.2		
<b>551-1323-00L</b>	<b>Fundamentals of Biology II: Biochemistry and Molecular Biology</b>	<b>O</b>	<b>4 credits</b>	<b>4G</b>				
	<p><i>Only for</i>  <i>- Biologie BSc (Programme Regulations 2013) and</i>  <i>- Pharmaceutical Sciences BSc (Programme Regulations 2013)</i></p>							
551-1323-00 G	<p>Grundlagen der Biologie II: Biochemie und Molekularbiologie  <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich.</i>  <i>Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.</i></p> <p><i>Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.</i></p>		4 hrs					K. Locher, N. Ban, R. Glockshuber, E. Weber-Ban
<b>551-0103-00L</b>	<b>Fundamentals of Biology II: Cell Biology</b>	<b>O</b>	<b>5 credits</b>	<b>5V</b>				
	<p><i>Only for</i>  <i>- Biologie BSc (Programme Regulations 2013),</i>  <i>- Pharmaceutical Sciences BSc (Programme Regulations 2013)</i>  <i>- Health Sciences and Technology BSc (Programme Regulations 2017)</i></p>							
551-0103-00 V	<p>Grundlagen der Biologie II: Zellbiologie  <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich.</i>  <i>Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.</i></p> <p><i>Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.</i></p>		5 hrs					S. Werner, Y. Barral, U. Kutay, G. Schertler, U. Suter, I. Zemp
<b>529-1023-00L</b>	<b>Physical Chemistry I (for Biology and Pharmacy)</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
	<p><i>Only for</i>  <i>- Biologie BSc (Programme Regulations 2013) and</i>  <i>- Pharmaceutical Sciences BSc (Programme Regulations 2013)</i></p>							
529-1023-00 V	<p>Physikalische Chemie I (für Biol./Pharm.Wiss.)  <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich.</i>  <i>Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt, aber nur noch im HS 2021.</i></p>		2 hrs					R. Riek

529-1023-00 U Physikalische Chemie I (für Biol./Pharm.Wiss.) 1 hrs R. Riek

*Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich.  
Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.*

*Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.*

## ►►► Elective Blocks

### ►►►► Biodiversity

Number	Title	Type	ECTS	Hours	Lecturers
551-0435-00L	<b>Systematic Biology: Zoology</b>	O	3 credits	2V+2P	
551-0435-00 V	Systematische Biologie: Zoologie <i>Does not take place this semester. Semesterwechsel, findet ab FS 2022 nur im FS statt.</i>			2 hrs	O. Y. Martin, M. Greeff
551-0435-00 P	Systematische Biologie: Zoologie <i>Does not take place this semester. Permission from lecturers required for all students Semesterwechsel, findet ab FS 2022 nur im FS statt.</i>			2 hrs	O. Y. Martin, M. Greeff

### ►►►► Cellular and Molecular Biology

Number	Title	Type	ECTS	Hours	Lecturers
529-0229-00L	<b>Practical Course Organic Chemistry (for Students of Biology and Pharmaceutical Sciences)</b> <i>Latest online enrolment is 10 days before the beginning of the semester. Students who did not pass the first-year examinations need the lecturers' written permission to take this course.</i>	O	8 credits	12P	
529-0229-00 P	Praktikum Organische Chemie (für Biol./Pharm.Wiss.) ■ <i>Permission from lecturers required for all students Vorbesprechungstermin und weitere Informationen werden im Moodle-Kurs bekanntgegeben. Arbeitsbeginn jeweils zur vollen Stunde (s.t.).  Further information such as date, time, and place of the introductory lecture: see Moodle course. The lab always starts at the top of the hour (s.t.).</i>			12 hrs	C. Thilgen, Y. Yamakoshi
				Tue 13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2
				Wed 13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2
				Thu 13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2
				Fri 12-18	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2
				23.09. 16-19	HCI G3
				28.09. 13-14	HCI D2
				30.09. 14-18	HCI E2
				01.10. 13-18	HCI E2

### ►►►► Biological Chemistry

Number	Title	Type	ECTS	Hours	Lecturers
529-0229-00L	<b>Practical Course Organic Chemistry (for Students of Biology and Pharmaceutical Sciences)</b> <i>Latest online enrolment is 10 days before the beginning of the semester. Students who did not pass the first-year examinations need the lecturers' written permission to take this course.</i>	O	8 credits	12P	

529-0229-00 P	Praktikum Organische Chemie (für Biol./Pharm.Wiss.) ■ <i>Permission from lecturers required for all students</i> <i>Vorbesprechungstermin und weitere Informationen werden im Moodle-Kurs bekanntgegeben. Arbeitsbeginn jeweils zur vollen Stunde (s.t.).</i>  <i>Further information such as date, time, and place of the introductory lecture: see Moodle course. The lab always starts at the top of the hour (s.t.).</i>	12 hrs	Tue	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2 HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2 HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2 HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	C. Thilgen, Y. Yamakoshi
			Wed	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2 HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2 HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	
			Thu	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2 HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	
			Fri	12-18	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	
			23.09.	16-19	HCI G3	
			28.09.	13-14	HCI D2	
			30.09.	14-18	HCI E2	
			01.10.	13-18	HCI E2	

### ►► 3. Year, 5. Semester

#### ►►► Concept Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-2413-00L</b>	<b>Evolutionary Genetics</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>					
701-1413-00 V	Population and Quantitative Genetics			2 hrs	Mon	14-16	HG D7.2		<b>T. Städler</b> , J. Stapley
701-1413-01 V	Ecological Genetics			2 hrs	Mon	10-12	ML F36		<b>A. Widmer</b> , S. Fior, M. C. Fischer
<b>551-0307-00L</b>	<b>Molecular and Structural Biology I: Protein Structure and Function</b> <i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function			2 hrs	Mon	14-16	HCI J7		<b>R. Glockshuber</b> , K. Locher, E. Weber-Ban
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>4V</b>					
551-0309-00 V	Concepts in Modern Genetics <i>**gemeinsam mit der Universität Zürich**</i>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60		<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet
<b>551-0311-00L</b>	<b>Molecular Life of Plants</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>					
551-0311-00 V	Molecular Life of Plants			4 hrs	Mon Tue	08-10 10-12	HPL D32 LFO C13		<b>S. C. Zeeman</b> , K. Bomblies, A. Rodríguez-Villalon, C. Sánchez-Rodríguez, O. Voinnet
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7		<b>W.-D. Hardt</b> , L. Eberl, J. Piel, M. Pilhofer
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3		<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp
<b>529-0731-00L</b>	<b>Nucleic Acids and Carbohydrates</b> <i>Note for BSc Biology students: Only one of the two concept courses 529-0731-00 Nucleic Acids and Carbohydrates (autumn semester) or 529-0732-00 Proteins and Lipids (spring semester) can be counted for the Bachelor's degree.</i>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0731-00 G	Nucleic Acids and Carbohydrates <i>Lecture 2 hours on Tue 9:45-11:30. Exercises: 1 hour according to agreement, presumably Tue 7:45-8:30 or 8:45-9:30. Exercises will start in the second week of semester.</i>			3 hrs	Tue	08-09 09-10 10-12	HCI D2 HCI D2 HCI J3		<b>D. Hilvert</b> , P. A. Kast, S. J. Sturla, H. Wennemers
<b>551-0317-00L</b>	<b>Immunology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0317-00 V	Immunology I			2 hrs	Tue	08-10	HG G3		<b>M. Kopf</b> , A. Oxenius
<b>551-1299-00L</b>	<b>Introduction to Bioinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					



551-1299-00 G	Introduction to Bioinformatics Lecture: Mo 12-14 Exercises: Mo 14-16	4 hrs	Mon	12-14 14-16	HPT C103 HPT C103	<b>S. Sunagawa</b> , M. Gstaiger, A. Kahles, G. Rättsch, B. Snijder, E. Vayena, C. von Mering, N. Zamboni
---------------	----------------------------------------------------------------------------	-------	-----	----------------	----------------------	--------------------------------------------------------------------------------------------------------------------

## ►►► Block Courses

Registration for Block courses is mandatory. Please register under [https://www.uzh.ch/zoolmed/ssl-dir/Blockkurse\\_UNIETH.php](https://www.uzh.ch/zoolmed/ssl-dir/Blockkurse_UNIETH.php). Registration period: from 26.07.2021 to 13.08.2021

Please note the ETH admission criteria for the admission of ETH students to ETH block courses on the block course registration website under "allocation".

## ►►►► Block Courses in 1st Quarter of the Semester

From 21.9.2021 to 13.10.2021

Number	Title	Type	ECTS	Hours				Lecturers
551-1129-00L	<b>Understanding and Engineering Microbial Metabolism</b> <i>Number of participants limited to 6.</i>  <i>The enrolment is done by the D-BIOL study administration.</i>  <i>General safety regulations for all block courses: The COVID certificate is mandatory at ETH Zurich. Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance. -Whenever possible the distance rules have to be respected -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed. -The installation and activation of the Swiss Covid-App is highly encouraged -Any additional rules for individual courses have to be respected -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.</i>	W	6 credits	7P				
551-1129-00 P	Understanding and Engineering Microbial Metabolism <i>Permission from lecturers required for all students Block course in the 1st quarter of the autumn semester</i>			100s hrs	Tue/1 Wed/1 Thu/1 Fri/1	13-17 08-17 08-17 08-17	HCI F436 HCI F436 HCI F436 HCI F436	J. Vorholt-Zambelli
551-1421-00L	<b>The Mechanisms of Natural Transformation in Competent Gram-Negative Bacteria</b> <i>Number of participants limited to 2.</i>  <i>The enrolment is done by the D-BIOL study administration.</i>  <i>General safety regulations for all block courses: The COVID certificate is mandatory at ETH Zurich. Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance. -Whenever possible the distance rules have to be respected -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed. -The installation and activation of the Swiss Covid-App is highly encouraged -Any additional rules for individual courses have to be respected -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.</i>	W	6 credits	7P				

551-1421-00 P	The Mechanisms of Natural Transformation in Competent Gram-Negative Bacteria <i>Permission from lecturers required for all students</i> <i>Block course in the 1st quarter of the autumn semester.</i>  <i>The course will start with an introductory lecture on Tuesday 21/09/2021 afternoon. Participants will be informed about the exact time and location via email.</i>	100s hrs					M. Hospenthal
551-1415-00L	<b>Image-Based Drug Screening in Human Blood for Personalized Medicine</b> <i>Number of participants limited to 6.</i>  <i>The enrolment is done by the D-BIOL study administration.</i>  <i>General safety regulations for all block courses:</i> <i>The COVID certificate is mandatory at ETH Zurich.</i> <i>Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.</i> <i>-Whenever possible the distance rules have to be respected</i> <i>-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.</i> <i>-The installation and activation of the Swiss Covid-App is highly encouraged</i> <i>-Any additional rules for individual courses have to be respected</i> <i>-Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.</i>	W	6 credits	7P			
551-1415-00 P	Image-Based Drug Screening in Human Blood for Personalized Medicine <i>Permission from lecturers required for all students</i> <i>Block course in the 1st quarter of the autumn semester.</i>	100s hrs	Tue/1 Wed/1 Thu/1 Fri/1	13-17 08-17 08-17 08-17	HPM E28 HPM E28 HPM E28 HPM E28		B. Snijder, further lecturers
551-0337-00L	<b>Cell Biology of the Nucleus</b> <i>Number of participants limited to 18.</i>  <i>The enrolment is done by the D-BIOL study administration.</i>  <i>General safety regulations for all block courses:</i> <i>The COVID certificate is mandatory at ETH Zurich.</i> <i>Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.</i> <i>-Whenever possible the distance rules have to be respected</i> <i>-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.</i> <i>-The installation and activation of the Swiss Covid-App is highly encouraged</i> <i>-Any additional rules for individual courses have to be respected</i> <i>-Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.</i>	W	6 credits	7P			
551-0337-00 P	Cell Biology of the Nucleus <i>Permission from lecturers required for all students</i> <i>Block course in the 1st semester quarter of the autumn semester.</i>	100s hrs	Tue/1 Wed/1 Thu/1 Fri/1	13-17 08-17 08-17 08-17	HPM E7 HPM E7 HPM E7 HPM E7		R. Kroschewski, Y. Barral, M. Jagannathan, S. Jessberger, K. Weis

## ▶▶▶▶ Block Courses in 2nd Quarter of the Semester

From 14.10.2021 bis 5.11.2021

Number	Title	Type	ECTS	Hours	Lecturers
551-0345-00L	<b>Mechanisms of Bacterial Pathogenesis</b> <i>Number of participants limited to 9 in the 2nd semester quarter of the autumn semester.</i>	W	6 credits	7P	

Number of participants limited to 6 in the 4th semester quarter of the autumn semester.

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:

The COVID certificate is mandatory at ETH Zurich.

Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been

-Whenever possible the distance rules have to be respected

-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.

-The installation and activation of the Swiss Covid-App is highly encouraged

-Any additional rules for individual courses have to be respected

-Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-0345-00 P	Mechanisms of Bacterial Pathogenesis Permission from lecturers required for all students Block course in the 2nd and 4th quarter of the autumn semester The block course will be held two times, once in the 2nd quarter of the autumn semester and once in the 4th quarter of the autumn semester. The block course in the 2nd quarter of the autumn semester must be booked as course number 551-0345-00 and the course in the 4th quarter of the autumn semester as course number 551-0345-01 in the registration website for the block courses. Place: HCI G443	100s hrs					W.-D. Hardt, B. Nguyen
551-0421-00L	<b>Biology and Ecology of Fungi in Forests</b> W Number of participants limited to 10.  The enrolment is done by the D-BIOL study administration.  General safety regulations for all block courses: The COVID certificate is mandatory at ETH Zurich. Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been -Whenever possible the distance rules have to be respected -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed. -The installation and activation of the Swiss Covid-App is highly encouraged -Any additional rules for individual courses have to be respected -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.	6 credits	7P				
551-0421-00 P	Biologie und Ökologie der Pilze im Wald Permission from lecturers required for all students Blockkurs im 2. Viertel des Herbstsemesters	100s hrs	Tue/1 Wed/1 Thu/1 Fri/1	13-17 08-17 08-17 08-17	WSL LGE5 WSL LGE5 WSL LGE5 WSL LGE5		S. Prospero, I. L. Brunner, M. Peter Baltensweiler

551-0351-00L **Membrane Biology** W 6 credits 7P  
Number of participants limited to 15.

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:

The COVID certificate is mandatory at ETH Zurich.

Only students who have a Covid certificate,

i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.  
 -Whenever possible the distance rules have to be respected  
 -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.  
 -The installation and activation of the Swiss Covid-App is highly encouraged  
 -Any additional rules for individual courses have to be respected  
 -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-0351-00 P	Membrane Biology Permission from lecturers required for all students Block course in the 2nd quarter of the autumn semester	100s hrs	Tue/1 Wed/1 Thu/1 Fri/1	13-17 08-17 08-17 08-17	HPM D7.2 HPM D7.2 HPM D7.2 HPM D7.2	<b>V. Korkhov</b> , U. Kutay, A. Rodriguez-Villalon, G. Schertler
---------------	-----------------------------------------------------------------------------------------------------------------------------------	----------	----------------------------------	----------------------------------	----------------------------------------------	-------------------------------------------------------------------------

---

**551-1201-00L Computational Methods in Genome and W 6 credits 7P**  
**Sequence Analysis**  
 Number of participants limited to 7.

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:  
 The COVID certificate is mandatory at ETH Zurich.  
 Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.  
 -Whenever possible the distance rules have to be respected  
 -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.  
 -The installation and activation of the Swiss Covid-App is highly encouraged  
 -Any additional rules for individual courses have to be respected  
 -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-1201-00 P	Computational Methods in Genome and Sequence Analysis Permission from lecturers required for all students Block course in the 2nd quarter of the autumn semester	100s hrs	Tue/1  Wed/1  Thu/1  Fri/1	13-17  08-17  08-17  08-17	HPL E14.2 HPL E16.2 HPL E14.2 HPL E16.2 HPL E14.2 HPL E16.2 HPL E14.2 HPL E16.2	<b>A. Wutz</b>
---------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------	----------------------------------------------	----------------------------------------------	------------------------------------------------------------------------------------------------------	----------------

---

**551-1143-00L Analysis of Human T and B Cell W 6 credits 7P**  
**Responses to Infectious Agents**  
 Number of participants limited to 15.

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:  
 The COVID certificate is mandatory at ETH Zurich.  
 Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.  
 -Whenever possible the distance rules have to be respected  
 -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.  
 -The installation and activation of the Swiss

Covid-App is highly encouraged  
 -Any additional rules for individual courses have to be respected  
 -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-1143-00 P	Analysis of Human T and B Cell Responses to Infectious Agents Permission from lecturers required for all students Block course in the 2nd quarter of the autumn semester	100s hrs	Tue/1 Wed/1 Thu/1 Fri/1	13-17 08-17 08-17 08-17	HCI E392 HCI E392 HCI E392 HCI E392	<b>F. Sallusto</b> , R. Geiger, D. Latorre
---------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------	----------------------------------	----------------------------------	----------------------------------------------	-----------------------------------------------

<b>551-0359-00L</b>	<b>Plant Biochemistry</b> Number of participants limited to 15.	<b>W</b>	<b>6 credits</b>	<b>7P</b>		
---------------------	--------------------------------------------------------------------	----------	------------------	-----------	--	--

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:  
 The COVID certificate is mandatory at ETH Zurich.  
 Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.  
 -Whenever possible the distance rules have to be respected  
 -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.  
 -The installation and activation of the Swiss Covid-App is highly encouraged  
 -Any additional rules for individual courses have to be respected  
 -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-0359-00 P	Plant Biochemistry Permission from lecturers required for all students Block course in the 2nd quarter of the autumn semester	100s hrs	Tue/1 Wed/1 Thu/1 Fri/1	13-17 08-17 08-17 08-17	LFW D12 LFW D12 LFW D12 LFW D12	<b>S. C. Zeeman</b> , B. Pfister
---------------	-------------------------------------------------------------------------------------------------------------------------------------	----------	----------------------------------	----------------------------------	------------------------------------------	----------------------------------

## ►►►► Block Courses in 3rd Quarter of the Semester

From 9.11.2021 to 1.12.2021

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

<b>551-0355-00L</b>	<b>Phytopathology</b> Number of participants limited to 12.	<b>W</b>	<b>6 credits</b>	<b>7P</b>	
---------------------	----------------------------------------------------------------	----------	------------------	-----------	--

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:  
 The COVID certificate is mandatory at ETH Zurich.  
 Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.  
 -Whenever possible the distance rules have to be respected  
 -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.  
 -The installation and activation of the Swiss Covid-App is highly encouraged  
 -Any additional rules for individual courses have to be respected  
 -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-0355-00 P	Phytopathology Permission from lecturers required for all students Block course in the 3rd quarter of the autumn semester	100s hrs	Tue/2 Wed/2 Thu/2 Fri/2	13-17 08-17 08-17 08-17	LFW B2 LFW B2 LFW E15 LFW E15	<b>M. Maurhofer Bringolf</b> , B. McDonald
---------------	---------------------------------------------------------------------------------------------------------------------------------	----------	----------------------------------	----------------------------------	----------------------------------------	-----------------------------------------------

<b>529-0739-01L</b>	<b>Biological Chemistry B: New Enzymes from Directed Evolution Experiments</b>	<b>W</b>	<b>6 credits</b>	<b>7P</b>		
---------------------	--------------------------------------------------------------------------------	----------	------------------	-----------	--	--

Number of participants limited to 12.

General safety regulations for all block courses:

The COVID certificate is mandatory at ETH Zurich.

Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.

-Whenever possible the distance rules have to be respected -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.

-The installation and activation of the Swiss Covid-App is highly encouraged -Any additional rules for individual courses have to be respected -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

529-0739-01 P	Biological Chemistry B: New Enzymes from Directed Evolution Experiments Permission from lecturers required for all students Block course in third quarter of autumn semester.	100s hrs	Tue/2	13-17	HCI E392	<b>P. A. Kast</b>
					HCI J374	
			Wed/2	08-17	HCI E392	
					HCI J374	
			Thu/2	08-17	HCI E392	
	Initial meeting place on first day at 12:45 in HCI J374. Information about actual working hours and how to sign up: <a href="http://www.kast.ethz.ch/teaching.html">www.kast.ethz.ch/teaching.html</a>				HCI J374	
			Fri/2	08-17	HCI E392	
					HCI J374	

**551-0336-00L Methods in Cellular Biochemistry W 6 credits 7P**  
Number of participants limited to 13.

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:

The COVID certificate is mandatory at ETH Zurich.

Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.

-Whenever possible the distance rules have to be respected

-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.

-The installation and activation of the Swiss Covid-App is highly encouraged

-Any additional rules for individual courses have to be respected

-Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-0336-00 P	Methods in Cellular Biochemistry Permission from lecturers required for all students Block course in the 3rd quarter of the autumn semester	100s hrs	Tue/2	13-17	HPM G7	<b>I. Zemp, U. Kutay, M. Peter</b>
			Wed/2	08-17	HPM G7	
			Thu/2	08-17	HPM G7	
			Fri/2	08-17	HPM G7	

**551-1515-00L Insulin Signaling W 6 credits 7P**  
Number of participants limited to 15.

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:

The COVID certificate is mandatory at ETH Zurich.

Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.

-Whenever possible the distance rules have to be respected

-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a

valve are permitted. Community masks (fabric masks) are not allowed.  
 -The installation and activation of the Swiss Covid-App is highly encouraged  
 -Any additional rules for individual courses have to be respected  
 -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-1515-00 P	Insulin Signaling Permission from lecturers required for all students Block course in the 3rd quarter of the autumn semester	100s hrs	Tue/2	13-17	HPL D12 HPL D21.2	<b>M. Stoffel</b>
			Wed/2	08-17	HPL D12 HPL D21.2	
			Thu/2	08-17	HPL D12 HPL D21.2	
			Fri/2	08-17	HPL D12 HPL D21.2	

---

**752-4020-00L Experimental Food Microbiology for Biologists**      **W**      **6 credits**      **7G**  
 Number of participants limited to 12

*Prerequisites: It is recommended to attend the course Lebensmittel-Mikrobiologie (752-4005-00L) as a preparation.  
 The course can only be booked via the Biology Student secretariat*

*General safety regulations for all block courses:  
 -Whenever possible the distance rules have to be respected  
 -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.  
 -The installation and activation of the Swiss Covid-App is highly encouraged  
 -Any additional rules for individual courses have to be respected  
 -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.*

752-4020-00 G	Expt. Lebensmittelmikrobiologie für Biologen Permission from lecturers required for all students Blockkurs im 3. Viertel des Herbstsemesters	100s hrs	Tue	13-17	LFV B42.1 LFV B42.2	<b>M. Schuppler, M. Loessner, Y. Shen</b>
			Wed	08-17	LFV C42 LFV B42.1 LFV B42.2	
			Thu	08-17	LFV C42 LFV B42.1 LFV B42.2	
			Fri	08-17	LFV C42 LFV B42.1 LFV B42.2	
					LFV C42	

---

**551-1517-00L Protein Change in Adaptive Evolution**      **W**      **6 credits**      **7P**  
 Number of participants limited to 7.

*The enrolment is done by the D-BIOL study administration.*

*General safety regulations for all block courses:  
 The COVID certificate is mandatory at ETH Zurich.  
 Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.  
 -Whenever possible the distance rules have to be respected  
 -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.  
 -The installation and activation of the Swiss Covid-App is highly encouraged  
 -Any additional rules for individual courses have to be respected  
 -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.*

responsible.

551-1517-00 P	Protein Change in Adaptive Evolution Permission from lecturers required for all students Block course in the 3rd quarter of the autumn semester	100s hrs	C. S. Hughes, K. Bomblies, A. P. Nayak
---------------	-------------------------------------------------------------------------------------------------------------------------------------------------------	----------	-------------------------------------------

551-1119-00L	<b>Microbial Community Genomics</b>	W	6 credits	7P
--------------	-------------------------------------	---	-----------	----

Number of participants limited to 10.

Prerequisite: Basic knowledge in [R] (e.g. introductory course) and/or UNIX is required. Participants should bring their own laptop computer.

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:  
The COVID certificate is mandatory at ETH Zurich.

Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been

-Whenever possible the distance rules have to be respected

-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.

-The installation and activation of the Swiss Covid-App is highly encouraged

-Any additional rules for individual courses have to be respected

-Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-1119-00 P	Microbial Community Genomics Permission from lecturers required for all students Block course in the 3rd quarter of the autumn semester	100s hrs	Tue/2 Wed/2 Thu/2 Fri/2	13-17 08-17 08-17 08-17	HCI G443 HCI G443 HCI G443 HCI G443	S. Sunagawa
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------	----------	----------------------------------	----------------------------------	----------------------------------------------	-------------

551-1147-00L	<b>Bioactive Natural Products from Bacteria</b>	W	6 credits	7P
--------------	-------------------------------------------------	---	-----------	----

Number of participants limited to 8.

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:  
The COVID certificate is mandatory at ETH Zurich.

Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.

-Whenever possible the distance rules have to be respected

-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.

-The installation and activation of the Swiss Covid-App is highly encouraged

-Any additional rules for individual courses have to be respected

-Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-1147-00 P	Bioactive Natural Products from Bacteria Permission from lecturers required for all students Block course in the 3rd quarter of the autumn semester	100s hrs	Tue/2 Wed/2 Thu/2 Fri/2	13-17 08-17 08-17 08-17	HCI G443 HCI G443 HCI G443 HCI G443	J. Piel
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------	----------	----------------------------------	----------------------------------	----------------------------------------------	---------

## ►►►► Block Courses in 4th Quarter of the Semester

From 2.12.2021 to 23.12.2021

Number	Title	Type	ECTS	Hours	Lecturers
551-0361-00L	<b>Biology of Bryophytes and Ferns</b> Number of participants limited to 16.	W	6 credits	7P	

The enrolment is done by the D-BIOL study



administration.

General safety regulations for all block courses:

The COVID certificate is mandatory at ETH Zurich.

Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.

-Whenever possible the distance rules have to be respected

-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.

-The installation and activation of the Swiss Covid-App is highly encouraged

-Any additional rules for individual courses have to be respected

-Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-0361-00 P	Biologie der Moose und Farne Permission from lecturers required for all students Blockkurs im 4. Viertel des Herbstsemesters.	100s hrs	Tue/2 Wed/2 Thu/2 Fri/2	13-17 08-17 08-17 08-17	LFW E15 LFW E15 LFW E15 LFW E15	<b>R. Holderegger,</b> A. L. Bergamini
---------------	-------------------------------------------------------------------------------------------------------------------------------------	----------	----------------------------------	----------------------------------	------------------------------------------	-------------------------------------------

<b>551-1309-00L</b>	<b>RNA-Biology</b> Number of participants limited to 17.	<b>W</b>	<b>6 credits</b>	<b>7P</b>
---------------------	-------------------------------------------------------------	----------	------------------	-----------

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:

The COVID certificate is mandatory at ETH Zurich.

Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.

-Whenever possible the distance rules have to be respected

-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.

-The installation and activation of the Swiss Covid-App is highly encouraged

-Any additional rules for individual courses have to be respected

-Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-1309-00 P	RNA-Biology Permission from lecturers required for all students Block course in the 4th quarter of the autumn semester	100s hrs				<b>F. Allain,</b> C. Beyer, J. Corn, J. Hall, M. Jinek, S. Jonas, R. Santoro, O. Voinnet
---------------	------------------------------------------------------------------------------------------------------------------------------	----------	--	--	--	------------------------------------------------------------------------------------------------

<b>551-1511-00L</b>	<b>Parallels Between Tissue Repair and Cancer</b> Number of participants limited to 20.	<b>W</b>	<b>6 credits</b>	<b>7P</b>
---------------------	--------------------------------------------------------------------------------------------	----------	------------------	-----------

The enrolment is done by the D-BIOL study administration.

General safety regulations for all block courses:

The COVID certificate is mandatory at ETH Zurich.

Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.

-Whenever possible the distance rules have to be respected

-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks

(fabric masks) are not allowed.  
 -The installation and activation of the Swiss Covid-App is highly encouraged  
 -Any additional rules for individual courses have to be respected  
 -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

551-1511-00 P	Parallels Between Tissue Repair and Cancer Permission from lecturers required for all students Block course in the 4th quarter of the autumn semester	100s hrs	Tue/2 Wed/2 Thu/2 Fri/2	13-17 08-17 08-17 08-17	HPL D12 HPL D21.2 HPL D12 HPL D21.2 HPL D12 HPL D21.2 HPL D12 HPL D21.2	<b>S. Werner</b> , H. Gehart, M. Schäfer
<b>551-0371-00L</b>	<b>Growth Control and Aging</b> Number of participants limited to 8.  The enrolment is done by the D-BIOL study administration.  General safety regulations for all block courses: The COVID certificate is mandatory at ETH Zurich. Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance. -Whenever possible the distance rules have to be respected -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed. -The installation and activation of the Swiss Covid-App is highly encouraged -Any additional rules for individual courses have to be respected -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.	<b>W</b>	<b>6 credits</b>	<b>7P</b>		
551-0371-00 P	Growth Control and Aging Permission from lecturers required for all students Block course in the 4th quarter of the autumn semester	100s hrs	Tue/2 Wed/2 Thu/2 Fri/2	13-17 08-17 08-17 08-17	HPM E36 HPM E36 HPM E36 HPM E36	<b>H. Stocker</b> , R. C. Dechant, G. Neurohr
<b>551-1403-00L</b>	<b>Imaging Bacterial Cells in a Native State by Electron Cryotomography</b> Number of participants limited to 15.  The enrolment is done by the D-BIOL study administration.  General safety regulations for all block courses: The COVID certificate is mandatory at ETH Zurich. Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance. -Whenever possible the distance rules have to be respected -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed. -The installation and activation of the Swiss Covid-App is highly encouraged -Any additional rules for individual courses have to be respected -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.	<b>W</b>	<b>6 credits</b>	<b>7P</b>		
551-1403-00 P	Imaging Bacterial Cells in a Native State by Electron Cryotomography Permission from lecturers required for all students Block course in the 4th quarter of the autumn semester	100s hrs	Tue/2 Wed/2 Thu/2 Fri/2	13-17 08-17 08-17 08-17	HPK D6.1 HPK D6.1 HPK D6.1 HPK D6.1	<b>M. Pilhofer</b> , G. Weiss

551-1417-00L	<b>In Vivo Cryo-EM Analysis of Dynein Motor Proteins</b> <i>Number of participants limited to 5.</i>  <i>The enrolment is done by the D-BIOL study administration.</i>  <i>General safety regulations for all block courses:</i> <i>The COVID certificate is mandatory at ETH Zurich.</i> <i>Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance.</i> <i>-Whenever possible the distance rules have to be respected</i> <i>-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.</i> <i>-The installation and activation of the Swiss Covid-App is highly encouraged</i> <i>-Any additional rules for individual courses have to be respected</i> <i>-Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.</i>	W	6 credits	7P				
551-1417-00 P	In Vivo Cryo-EM Analysis of Dynein Motor Proteins <i>Permission from lecturers required for all students</i> <i>Block course in the 4th quarter of the autumn semester</i>  <i>Place: Paul Scherrer Institut, Villigen</i>			100s hrs	Tue/2 13-17 Wed/2 08-17 Thu/2 08-17 Fri/2 08-17	Ex tern Ex tern Ex tern Ex tern	<b>T. Ishikawa</b>	
551-0345-00L	<b>Mechanisms of Bacterial Pathogenesis</b> <i>Number of participants limited to 9 in the 2nd semester quarter of the autumn semester.</i>  <i>Number of participants limited to 6 in the 4th semester quarter of the autumn semester.</i>  <i>The enrolment is done by the D-BIOL study administration.</i>  <i>General safety regulations for all block courses:</i> <i>The COVID certificate is mandatory at ETH Zurich.</i> <i>Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been</i> <i>-Whenever possible the distance rules have to be respected</i> <i>-All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.</i> <i>-The installation and activation of the Swiss Covid-App is highly encouraged</i> <i>-Any additional rules for individual courses have to be respected</i> <i>-Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.</i>	W	6 credits	7P				
551-0345-00 P	Mechanisms of Bacterial Pathogenesis <i>Permission from lecturers required for all students</i> <i>Block course in the 2nd and 4th quarter of the autumn semester</i> <i>The block course will be held two times, once in the 2nd quarter of the autumn semester and once in the 4th quarter of the autumn semester. The block course in the 2nd quarter of the autumn semester must be booked as course number 551-0345-00 and the course in the 4th quarter of the autumn semester as course number 551-0345-01 in the registration website for the block courses. Place: HCI G443</i>			100s hrs			<b>W.-D. Hardt, B. Nguyen</b>	

## ▶▶▶▶ Block Courses in the 1st Half of the Semester

*From 21.9.2021 to 5.11.2021*

Number	Title	Type	ECTS	Hours	Lecturers
701-2437-01L	Aquatic Ecology (incl. Two Identification	W	12 credits	3V+6U+4P	

## Courses)

The course can only be booked via the Biology Office of Student Affairs.

General safety regulations for all block courses:

-Whenever possible the distance rules have to be respected -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed.  
-The installation and activation of the Swiss Covid-App is highly encouraged -Any additional rules for individual courses have to be respected -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.

701-1437-00 V	Aquatic Ecology I <i>Unregelmässige Lehrveranstaltung</i>	40s hrs	Wed/1 Thu/1	08-12 08-12	EAW -EAWAG P. Spaak, F. Altermatt, EAW -EAWAG C. T. Robinson
701-1437-03 U	Aquatic Ecology II <i>First half of the semester; at EAWAG, BU G 03. Includes 3-day field trip from 29.09-01.10.2021.</i>	90s hrs	Wed/1 Thu/1 Fri/1	13-17 13-17 08-12	EAW -EAWAG P. Spaak, F. Altermatt, EAW -EAWAG C. T. Robinson EAW -EAWAG
701-1437-01 P	Bestimmungskurs aquatische Makroinvertebraten <i>The maximal participating number of students is 8 from D-USYS and 14 from D-BIOL. In case of too many students, those that simultaneously participate in the courses "701-1437-00 Aquatic Ecology I" and "701-1437-02 Bestimmungskurs Süswasseralgen und aquatische Mikroinvertebraten" are given priority. Sign in until 26.08.2021, free places will be distributed after that. Students registering later cannot be guaranteed a place in the course. Takes place at Eawag Dübendorf (BU G 03).</i>	28s hrs	Tue/1	13-17	EAW -EAWAG J. Jokela
701-1437-02 P	Bestimmungskurs Süswasseralgen und aquatische Mikroinvertebraten <i>The maximal participating number of students is 8 from D-USYS and 14 from D-BIOL. In case of too many students, those that simultaneously participate in the courses "701-1437-00 Aquatic Ecology I" and "701-1437-01 Bestimmungskurs aquatischer Makroinvertebraten" are given priority. Sign in until 26.08.2021, free places will be distributed after that. Students registering later cannot be guaranteed a place in the course.</i>	28s hrs	Fri/1 21.10.	13-17 13-17	EAW -EAWAG J. Jokela EAW -EAWAG

Takes place at Eawag Dübendorf (BU G 03)

## ►►►► Block Courses during Semester Break

Number	Title	Type	ECTS	Hours	Lecturers
551-1709-00L	Genomic and Genetic Methods in Cell and Developmental Biology <i>Number of participants limited to 8.</i>  <i>The enrolment is done by the D-BIOL study administration.</i>  <i>General safety regulations for all block courses: The COVID certificate is mandatory at ETH Zurich. Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been tested, are entitled to attend courses in attendance. -Whenever possible the distance rules have to be respected -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed. -The installation and activation of the Swiss Covid-App is highly encouraged -Any additional rules for individual courses have to be respected -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.</i>	W	6 credits	7P	
551-1709-00 P	Genomic and Genetic Methods in Cell and Developmental Biology <i>Permission from lecturers required for all students Block course in the semester break.</i>			100s hrs	A. Wutz, M. Kopf, T. Schroeder

## ► GESS Science in Perspective

## ►► Science in Perspective

---

*Recommended GESS Science in  
Perspective (Type B) for D-BIOL.*

---

*see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability*

---

## ►► Language Courses

---

*see GESS Science in Perspective:  
Language Courses ETH/UZH*

---

### Biology Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

---

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

---

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Biology Teaching Diploma

Detailed information on the programme at: [www.didaktischeausbildung.ethz.ch](http://www.didaktischeausbildung.ethz.ch)

## ► Educational Science

Course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours				Lecturers
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S				
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1	R. Schumacher
see Educational Science Teaching Diploma								
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S				
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40	E. Stern
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S				
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1	P. Edelsbrunner, T. Braas, C. M. Thurn
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S				
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114	M. Berkowitz Biran, T. Braas, C. M. Thurn
851-0229-00L	<b>Using Outdoor Education</b> <i>Number of participants limited to 40.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma Biology and Geography.</i>	W	1 credit	1S				
851-0229-00 S	Ausserschulische Lernorte nutzen ■ <i>Das erste Treffen findet in der 1. Semesterwoche statt. Details folgen.</i>			15s hrs				R. Schumacher, P. Faller

## ► Subject Didactics in Biology

Number	Title	Type	ECTS	Hours	Lecturers		
551-0961-00L	<b>Mentored Work Subject Didactics Biology A</b> <i>The Subject Didactics as well as possible</i>	O	2 credits	4A			

branch-specific requirements must be fulfilled prior to commencing the mentored paper.

551-0961-00 A	Mentorierte Arbeit Fachdidaktik Biologie A Lehrdiplom ■		60s hrs	by appt.				<b>P. Faller, H. Stocker</b>
<b>551-0962-00L</b>	<b>Mentored Work Subject Didactics Biology B</b> <i>The Subject Didactics as well as possible branch-specific requirements must be fulfilled prior to commencing the mentored paper.</i>	<b>O</b>	<b>2 credits</b>	<b>4A</b>				
551-0962-00 A	Mentorierte Arbeit Fachdidaktik Biologie B Lehrdiplom ■		60s hrs	by appt.				<b>P. Faller, H. Stocker</b>
<b>551-0971-00L</b>	<b>Subject Didactics Biology I</b> <i>Simultaneous enrolment in Introductory Internship Biology - course 551-0968-00L - is compulsory.</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>				
551-0971-00 G	Fachdidaktik Biologie I ■		3 hrs	Thu	16-19	LFW C4		<b>P. Faller</b>

## ► Professional Training

*Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>551-0968-00L</b>	<b>Introductory Internship Biology</b> <i>Simultaneous enrolment in Biology Didactics I - course 551-0971-00L - is compulsory.</i>	<b>O</b>	<b>3 credits</b>	<b>6P</b>					
551-0968-00 P	Einführungspraktikum Biologie ■			90s hrs	by appt.				<b>P. Faller</b>
<b>551-0966-00L</b>	<b>Teaching Internship Biology</b>	<b>O</b>	<b>8 credits</b>	<b>17P</b>					
551-0966-00 P	Unterrichtspraktikum Biologie Lehrdiplom ■			240s hrs	by appt.				<b>P. Faller</b>
<b>551-0969-01L</b>	<b>Examination Lesson I Biology</b> <i>Simultaneous enrolment in "Examination Lesson II Biology" (551-0969-02L) is compulsory.</i>	<b>O</b>	<b>1 credit</b>	<b>2P</b>					
551-0969-01 P	Prüfungslektion untere Stufe Biologie ■			30s hrs	by appt.				<b>P. Faller</b>
<b>551-0969-02L</b>	<b>Examination Lesson II Biology</b> <i>Simultaneous enrolment in "Examination Lesson I Biology" (551-0969-01L) is compulsory.</i>	<b>O</b>	<b>1 credit</b>	<b>2P</b>					
551-0969-02 P	Prüfungslektion obere Stufe Biologie ■			30s hrs	by appt.				<b>P. Faller</b>
<b>551-0913-00L</b>	<b>Professional Exercises in Biology</b>	<b>O</b>	<b>2 credits</b>	<b>2U</b>					
551-0913-00 U	Berufspraktische Übungen: biologische Schulexperimente ■ <i>7 Halbtage (Samstagsmorgen), alle 2 Wochen im Semester, Beginn in der ersten Semesterwoche Ort: KS Rychenberg, Winterthur (ev. eine Exkursion)</i>			2 hrs					<b>P. Faller</b>

## ► Spec. Courses in Resp. Subj. w/ Educ. Focus & Further Subj. Didactics

Number	Title	Type	ECTS	Hours					Lecturers
<b>551-0973-00L</b>	<b>Specialized Biology Course with an Educational Focus: Evolution</b>	<b>O</b>	<b>6 credits</b>	<b>2G+13A</b>					
551-0973-00 G	Fachwissenschaftliche Vertiefung in Biologie mit pädagogischem Fokus: Evolution ■			2 hrs	Tue	09-12	HIT K52		<b>H. Stocker, Y. Barral, K. Köhler</b>
551-0973-00 A	Fachwissenschaftliche Vertiefung in Biologie mit pädagogischem Fokus: Evolution ■			180s hrs					<b>H. Stocker, Y. Barral, K. Köhler</b>

## ► Compulsory Elective Courses

*Further course offerings from the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".*

Number	Title	Type	ECTS	Hours					Lecturers
	<i>see Compulsory Elective Courses Teaching Diploma</i>								
<b>851-0180-00L</b>	<b>Research Ethics</b> <i>Number of participants limited to 40</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
	<i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>								
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1		<b>G. Achermann, P. Emch</b>
<b>701-0015-00L</b>	<b>Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement</b> <i>Number of participants limited to 20. Priority is given to PhD students D-USYS.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
	<i>All participants will be on the waiting list at first. Enrollment is possible until 15 September 2021. The waiting list is active until 17 September. All students will be informed on 19 September, if they can participate in the lecture.</i>								

The lecture takes place if a minimum of 12 students register for it..								
701-0015-00 S	Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement <i>Irregular course</i>	2 hrs	Wed/2w 08-12	CHN K77	<b>M. Stauffacher</b> , C. E. Pohl, B. Vienni Baptista			
<b>701-1651-00L</b>	<b>Environmental Governance</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
701-1651-00 G	Environmental Governance		3 hrs	Tue	10-13	CHN E46	<b>E. Lieberherr</b>	
<b>701-1551-00L</b>	<b>Sustainability Assessment</b> <i>Number of participants limited to 35.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
<i>Waiting list will be deleted October 1st, 2021.</i>								
<i>No enrollment possible after October 1st, 2021.</i>								
701-1551-00 G	Sustainability Assessment		2 hrs	Fri	10-12	CHN G42	<b>P. Krütli</b> , D. Nef	
<b>851-0229-00L</b>	<b>Using Outdoor Education</b> <i>Number of participants limited to 40.</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>				
<i>Enrolment only possible with matriculation in Teaching Diploma Biology and Geography.</i>								
851-0229-00 S	Ausserschulische Lernorte nutzen ■ <i>Das erste Treffen findet in der 1. Semesterwoche statt. Details folgen.</i>		15s hrs					<b>R. Schumacher</b> , P. Faller
<b>860-0023-00L</b>	<b>International Environmental Politics</b> <i>Particularly suitable for students of D-ITET, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
860-0023-00 V	International Environmental Politics		2 hrs	Mon	16-18	HG F3	<b>T. Bernauer</b>	

### ► Course Units for Additional Admission Requirements

The courses below are only available for students with additional admission requirements.

Number	Title	Type	ECTS	Hours				Lecturers
376-0151-00L	Anatomy and Physiology I	E-	5 credits	4V				D. P. Wolfer, K. De Bock, R. Fiore, S. Meissner, L. Slomianka, C. Spengler, M. Willecke
376-0151-00 V	Anatomie und Physiologie I Mi 8-10h Vorlesung im Hörsaal I24 G 55 mit Videoübertragung ins I03 G 85			4 hrs	Wed	08-10	I03 G85 I24 G55	
					Thu	10-12	HCI G3	
752-4001-00L	Microbiology	E-	2 credits	2V				M. Ackermann, M. Schuppler, J. Vorholt-Zambelli
752-4001-00 V	Mikrobiologie			2 hrs	Mon	08-10	ML D28	
551-0127-01L	Plants and Fungi	O	4 credits	3G				S. C. Zeeman, M. Künzler, O. Y. Martin
551-0127-01 G	Pflanzen und Pilze Ort: HCI G3 Tag/Zeit werden noch mitgeteilt			3 hrs				

### Biology Teaching Diploma - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.



# Biology Master

## ► Elective Major Subject Areas

### ►► Elective Major: Ecology and Evolution

#### ►►► Compulsory Concept Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-2413-00L</b>	<b>Evolutionary Genetics</b>	<b>O</b>	<b>6 credits</b>	<b>4V</b>				<b>T. Städler</b> , J. Stapley <b>A. Widmer</b> , S. Fior, M. C. Fischer
701-1413-00 V	Population and Quantitative Genetics			2 hrs	Mon	14-16	HG D7.2	
701-1413-01 V	Ecological Genetics			2 hrs	Mon	10-12	ML F36	
<b>701-0328-00L</b>	<b>Advanced Ecological Processes</b> <i>For students of the following study programmes only:</i> <i>Biology Master</i> <i>Teaching certificate Biology</i> <i>Environmental Sciences Master</i> <i>UZH MNF Biology</i> <i>UZH MNF Geography /Earth Sciences</i>	<b>O</b>	<b>4 credits</b>	<b>2V</b>				<b>J. Hille Ris Lambers</b>
701-0328-00 V	Advanced Ecological Processes			2 hrs	Mon	12-14	CHN F42	

#### ►►► Elective Compulsory Master Courses

Number	Title	Type	ECTS	Hours				Lecturers
751-4801-00L	System-Oriented Management of Herbivore Insects	W	2 credits	2G				to be announced
751-4801-00 G	Systembezogene Bekämpfung herbivorer Insekten <i>Does not take place this semester.</i>			2 hrs				
701-1409-00L	Research Seminar: Ecological Genetics	W	2 credits	1S				S. Fior
701-1409-00 S	Research Seminar: Ecological Genetics <i>or by arrangement</i>			1 hrs	Wed	11-12	CHN D46	
751-5121-00L	Insect Ecology	W	2 credits	2V				C. De Moraes, M. Mescher, N. Stanczyk
751-5121-00 V	<i>The number of participants is limited to 30.</i> Insect Ecology			2 hrs	Tue	14-16	LFW B3	
401-0625-01L	Applied Analysis of Variance and Experimental Design	W	5 credits	2V+1U				L. Meier L. Meier
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon	14-16	HG G5	
401-0625-01 U	Applied Analysis of Variance and Experimental Design			1 hrs	Mon/2w	16-18	HG E1.1	
401-0649-00L	Applied Statistical Regression	W	5 credits	2V+1U				M. Dettling M. Dettling
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon	08-10	HG E1.2	
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>			1 hrs	Mon/2w	10-12	HG E1.2	
701-0301-00L	Applied Systems Ecology	W	3 credits	2V				A. Gessler, C. Grossiord
701-0301-00 V	<i>Number of participants limited to 35. Waiting list will be deleted October 3rd, 2021.</i> Angewandte Systemökologie <i>Lehrsprache Englisch oder Deutsch, wird zu Beginn mit den Studierenden entschieden.</i>			2 hrs	Tue	16-18	HG G26.5	
401-6215-00L	Using R for Data Analysis and Graphics (Part I)	W	1.5 credits	1G				M. Mächler
401-6215-00 G	Using R for Data Analysis and Graphics (Part I)			14s hrs	Tue/1	14-16	CAB G11	
401-6217-00L	Using R for Data Analysis and Graphics (Part II)	W	1.5 credits	1G				M. Mächler
401-6217-00 G	Using R for Data Analysis and Graphics (Part II)			14s hrs	Tue/2	14-16	CAB G11	
751-4504-00L	Plant Pathology I	W	2 credits	2G				B. McDonald
751-4504-00 G	Plant Pathology I			2 hrs	Wed	14-16	LFW C5	
636-0017-00L	Computational Biology	W	6 credits	3G+2A				T. Vaughan
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>			3 hrs	Mon	16-18	BSA E46 HG D16.2 18-19 HG D16.2 Thu 12-13 BSA E46	
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>			2 hrs				T. Vaughan
701-1471-00L	Ecological Parasitology	W	3 credits	1V+1P				
	<i>Number of participants limited to 20.</i>							

A minimum of 6 students is required that the course will take place.

Waiting list will be deleted on October 1st, 2021.

701-1471-00 V	Ecological Parasitology ■ The lecture takes place irregularly.	14s hrs	Tue	08-10	CHN G46	J. Jokela, C. Vorburger
701-1471-00 P	Ecological Parasitology ■ Daten der Veranstaltung: 05.10.; 19.10.; 09.11 Zeit: 8:15 - 12:00 Ort der Veranstaltung: EAWAG Dübendorf	12s hrs	05.10. 19.10. 09.11.	08-12 08-12 08-12	EAW -EAWAG EAW -EAWAG EAW -EAWAG	J. Jokela, C. Vorburger
<b>701-1427-00L</b>	<b>Experimental Evolution</b> Semester change. This lecture will be offered in Spring Semester 2022 for the next time.	<b>W</b>	<b>4 credits</b>	<b>2S</b>		
701-1427-00 S	Experimental Evolution Does not take place this semester. Diese Lehrveranstaltung wird im HS21 nicht angeboten. Sie wird das nächste Mal im FS22 angeboten.		2 hrs			G. Velicer, A. Hall
<b>701-1703-00L</b>	<b>Evolutionary Medicine for Infectious Diseases</b> Number of participants limited to 35.  Waiting list will be deleted October 3rd, 2021.	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
701-1703-00 G	Evolutionary Medicine for Infectious Diseases		2 hrs	Fri	10-12	HG E41 A. Hall
<b>636-0009-00L</b>	<b>Evolutionary Dynamics</b> Attention: lecture starts on Thursday, 30 Sep 2021	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>		
636-0009-00 V	Evolutionary Dynamics Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked for students to follow the course from there.		2 hrs	Thu	09-11	BSA E46 HG D16.2 N. Beerenwinkel
636-0009-00 U	Evolutionary Dynamics Online: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there		1 hrs	Thu	11-12	BSA E46 HG D16.2 N. Beerenwinkel
636-0009-00 A	Evolutionary Dynamics Project Work (compulsory continuous performance assessment), no fixed presence required.		2 hrs			N. Beerenwinkel

### ▶▶▶ Elective Concept Courses

Number	Title	Type	ECTS	Hours			Lecturers
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7 W.-D. Hardt, L. Eberl, J. Piel, M. Pilhofer
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b> Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.  Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a>	<b>W</b>	<b>6 credits</b>	<b>4V</b>			
551-0309-00 V	Concepts in Modern Genetics **gemeinsam mit der Universität Zürich**			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60 Y. Barral, D. Bopp, A. Hajnal, O. Voinnet
<b>551-1299-00L</b>	<b>Introduction to Bioinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
551-1299-00 G	Introduction to Bioinformatics Lecture: Mo 12-14 Exercises: Mo 14-16			4 hrs	Mon	12-14 14-16	HPT C103 HPT C103 S. Sunagawa, M. Gstaiger, A. Kahles, G. Rätsch, B. Snijder, E. Vayena, C. von Mering, N. Zamboni

### ▶▶ Elective Major: Microbiology and Immunology

#### ▶▶▶ Compulsory Concept Courses

Number	Title	Type	ECTS	Hours			Lecturers
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>			
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7 W.-D. Hardt, L. Eberl, J. Piel, M. Pilhofer
<b>551-0317-00L</b>	<b>Immunology I</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>			
551-0317-00 V	Immunology I			2 hrs	Tue	08-10	HG G3 M. Kopf, A. Oxenius

#### ▶▶▶ Elective Compulsory Master Courses

Number	Title	Type	ECTS	Hours			Lecturers
--------	-------	------	------	-------	--	--	-----------

<b>551-0223-00L</b>	<b>Immunology III</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>						
551-0223-00 V	Immunology III			2 hrs	Mon	10-12	HCI H8.1	<b>M. Kopf</b> , S. B. Freigang, J. Kisielow, S. R. Leibundgut, A. Oxenius, C. Schneider, R. Spörri, L. Tortola, E. Wetter Slack		
<b>551-0512-00L</b>	<b>Current Topics in Molecular and Cellular Neurobiology</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>						
	<i>Number of participants limited to 8.</i>									
551-0512-00 S	Current Topics in Molecular and Cellular Neurobiology			1 hrs				<b>U. Suter</b>		
	<i>Does not take place this semester.</i>									
	<i>Permission from lecturers required for all students</i>									
	<i>This course may be taken only once, either in the spring semester or in the autumn semester.</i>									
<b>551-1117-00L</b>	<b>Cutting Edge Topics: Immunology and Infection Biology</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>						
	<i>Information for UZH students:</i>									
	<i>Enrolment to this course unit only possible at ETH. No enrolment to module BIO636 at UZH.</i>									
	<i>Please mind the ETH enrolment deadlines for UZH students:</i>									
	<i><a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>									
551-1117-00 S	Cutting Edge Topics: Immunology and Infection Biology			1 hrs	Tue	18-19	I17 M5	<b>A. Oxenius</b> , B. Becher, C. Halin Winter, M. Kopf, S. R. Leibundgut, C. Münz, L. Tortola, M. van den Broek		
	<i>**together with University of Zurich**</i>									
	<i>In autumn semester 2021, the seminar will be conducted hybrid, some seminar units will only take place via Zoom and others on site with a parallel broadcasting. Information on the individual seminar units can be found at <a href="https://micro.biol.ethz.ch/events/immunology-seminars.html">https://micro.biol.ethz.ch/events/immunology-seminars.html</a>.</i>									
<b>551-1153-00L</b>	<b>Systems Biology of Metabolism</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>						
	<i>Number of participants limited to 15.</i>									
551-1153-00 V	Systems Biology of Metabolism			2 hrs	Mon	10-12	HPL D34	<b>U. Sauer</b> , N. Zamboni, M. Zampieri		
<b>551-1171-00L</b>	<b>Immunology: From Milestones to Current Topics</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>						
551-1171-00 S	Immunology: From Milestones to Current Topics			2 hrs	Tue	14-16	HIT H51	<b>B. Ludewig</b> , J. Kisielow, A. Oxenius, L. Tortola, University lecturers		
	<i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>									
<b>551-1303-00L</b>	<b>Cellular Biochemistry of Health and Disease</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>						
	<i>Number of participants limited to 20.</i>									
551-1303-00 S	Cellular Biochemistry of Health and Disease			2 hrs	Fri	10-12	HIT H42	<b>V. Korkhov</b> , Y. Barral, T. Ishikawa, M. Jagannathan, R. Kroschewski, G. Neurohr, M. Peter, A. E. Smith, B. Snijder, K. Weis		
<b>752-4009-00L</b>	<b>Molecular Biology of Foodborne Pathogens</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>						
752-4009-00 V	Molecular Biology of Foodborne Pathogens			2 hrs	Thu	10-12	HG E1.2	<b>M. Loessner</b> , M. Schmelcher, M. Schuppler, E. Wetter Slack		
<b>752-5103-00L</b>	<b>Functional Microorganisms in Foods</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>						
752-5103-00 G	Functional Microorganisms in Foods ■			2 hrs	Wed	14-16	HG D7.1	<b>C. Lacroix</b> , A. Geirnaert, A. Greppi		
	<i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>									
<b>751-4504-00L</b>	<b>Plant Pathology I</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>						
751-4504-00 G	Plant Pathology I			2 hrs	Wed	14-16	LFW C5	<b>B. McDonald</b>		
<b>636-0017-00L</b>	<b>Computational Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>						
636-0017-00 G	Computational Biology			3 hrs	Mon	16-18	BSA E46	<b>T. Vaughan</b>		
	<i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations.</i>									
	<i>Tutorials in Zürich: Monday 18-19h (HG D 16.2)</i>									
	<i>Tutorials in Basel: Thursday 12-13h (BSA E 46)</i>				Thu	12-13	BSA E46			
	<i>Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom.</i>									
	<i>ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>									
636-0017-00 A	Computational Biology			2 hrs				<b>T. Vaughan</b>		
	<i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>									
<b>701-1703-00L</b>	<b>Evolutionary Medicine for Infectious</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>						

## Diseases

Number of participants limited to 35.

Waiting list will be deleted October 3rd, 2021.

701-1703-00 G	Evolutionary Medicine for Infectious Diseases	2 hrs	Fri	10-12	HG E41	A. Hall
---------------	-----------------------------------------------	-------	-----	-------	--------	---------

## ▶▶▶ Elective Concept Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-4005-00L</b>	<b>Food Microbiology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-4005-00 V	Lebensmittel-Mikrobiologie I			2 hrs	Tue	10-12	HG E1.1	<b>M. Loessner</b>
<b>701-2413-00L</b>	<b>Evolutionary Genetics</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>				
701-1413-00 V	Population and Quantitative Genetics			2 hrs	Mon	14-16	HG D7.2	<b>T. Städler</b> , J. Stapley
701-1413-01 V	Ecological Genetics			2 hrs	Mon	10-12	ML F36	<b>A. Widmer</b> , S. Fior, M. C. Fischer
<b>551-0311-00L</b>	<b>Molecular Life of Plants</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>				
551-0311-00 V	Molecular Life of Plants			4 hrs	Mon Tue	08-10 10-12	HPL D32 LFO C13	<b>S. C. Zeeman</b> , K. Bomblies, A. Rodriguez-Villalon, C. Sánchez-Rodríguez, O. Voinnet
<b>551-0307-00L</b>	<b>Molecular and Structural Biology I: Protein Structure and Function</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
	<i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>							
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function			2 hrs	Mon	14-16	HCI J7	<b>R. Glockshuber</b> , K. Locher, E. Weber-Ban
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>				
	<i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>							
	<i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>							
551-0309-00 V	Concepts in Modern Genetics <i>**gemeinsam mit der Universität Zürich**</i>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3	<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp
<b>529-0731-00L</b>	<b>Nucleic Acids and Carbohydrates</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
	<i>Note for BSc Biology students: Only one of the two concept courses 529-0731-00 Nucleic Acids and Carbohydrates (autumn semester) or 529-0732-00 Proteins and Lipids (spring semester) can be counted for the Bachelor's degree.</i>							
529-0731-00 G	Nucleic Acids and Carbohydrates <i>Lecture 2 hours on Tue 9:45-11:30. Exercises: 1 hour according to agreement, presumably Tue 7:45-8:30 or 8:45-9:30. Exercises will start in the second week of semester.</i>			3 hrs	Tue	08-09 09-10 10-12	HCI D2 HCI D2 HCI J3	<b>D. Hilvert</b> , P. A. Kast, S. J. Sturla, H. Wennemers
<b>551-1299-00L</b>	<b>Introduction to Bioinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
551-1299-00 G	Introduction to Bioinformatics <i>Lecture: Mo 12-14 Exercises: Mo 14-16</i>			4 hrs	Mon	12-14 14-16	HPT C103 HPT C103	<b>S. Sunagawa</b> , M. Gstaiger, A. Kahles, G. Rätsch, B. Snijder, E. Vayena, C. von Mering, N. Zamboni

## ▶▶▶ Elective Master Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-1423-00L</b>	<b>Current Topics in Metabolism and Disease</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>				
551-1423-00 S	Current Topics in Metabolism and Disease <i>Does not take place this semester. Permission from lecturers required for all students Findet ab HS2021 nicht mehr statt.</i>			1 hrs				to be announced

## ▶▶ Elective Major: Cell Biology

## ▶▶▶ Elective Compulsory Concept Courses

See D-BIOL Master Studies Guide

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				

551-0319-00 V	Cellular Biochemistry (Part I)		2 hrs	Mon	14-16	HCI J3	<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>4V</b>			
551-0309-00 V	Concepts in Modern Genetics <b>**gemeinsam mit der Universität Zürich**</b>		4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet
<b>551-0317-00L</b>	<b>Immunology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
551-0317-00 V	Immunology I		2 hrs	Tue	08-10	HG G3	<b>M. Kopf</b> , A. Oxenius
<b>551-1299-00L</b>	<b>Introduction to Bioinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
551-1299-00 G	Introduction to Bioinformatics <i>Lecture: Mo 12-14 Exercises: Mo 14-16</i>		4 hrs	Mon	12-14 14-16	HPT C103 HPT C103	<b>S. Sunagawa</b> , M. Gstaiger, A. Kahles, G. Rätsch, B. Snijder, E. Vayena, C. von Mering, N. Zamboni

### ▶▶▶ Elective Compulsory Master Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-0512-00L</b>	<b>Current Topics in Molecular and Cellular Neurobiology</b> <i>Number of participants limited to 8.</i>	<b>W</b>	<b>2 credits</b>	<b>1S</b>				
551-0512-00 S	Current Topics in Molecular and Cellular Neurobiology <i>Does not take place this semester. Permission from lecturers required for all students This course may be taken only once, either in the spring semester or in the autumn semester.</i>			1 hrs				<b>U. Suter</b>
<b>551-0571-00L</b>	<b>From DNA to Diversity (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO336</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
551-0571-00 V	From DNA to Diversity (University of Zurich) <b>**Course at University of Zurich**</b>			2 hrs				<b>A. Hajnal</b> , D. Bopp
<b>551-1117-00L</b>	<b>Cutting Edge Topics: Immunology and Infection Biology</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO636 at UZH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	<b>W</b>	<b>2 credits</b>	<b>1S</b>				
551-1117-00 S	Cutting Edge Topics: Immunology and Infection Biology <b>**together with University of Zurich**</b>  <i>In autumn semester 2021, the seminar will be conducted hybrid, some seminar units will only take place via Zoom and others on site with a parallel broadcasting. Information on the individual seminar units can be found at <a href="https://micro.biol.ethz.ch/events/immunology-seminars.html">https://micro.biol.ethz.ch/events/immunology-seminars.html</a>.</i>			1 hrs	Tue	18-19	I17 M5	<b>A. Oxenius</b> , B. Becher, C. Halin Winter, M. Kopf, S. R. Leibundgut, C. Münz, L. Tortola, M. van den Broek
<b>551-1153-00L</b>	<b>Systems Biology of Metabolism</b> <i>Number of participants limited to 15.</i>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
551-1153-00 V	Systems Biology of Metabolism			2 hrs	Mon	10-12	HPL D34	<b>U. Sauer</b> , N. Zamboni, M. Zampieri
<b>551-1171-00L</b>	<b>Immunology: From Milestones to Current Topics</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
551-1171-00 S	Immunology: From Milestones to Current Topics <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Tue	14-16	HIT H51	<b>B. Ludewig</b> , J. Kisielow, A. Oxenius, L. Tortola, University lecturers
<b>551-1303-00L</b>	<b>Cellular Biochemistry of Health and Disease</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				

Number of participants limited to 20.								
551-1303-00 S	Cellular Biochemistry of Health and Disease		2 hrs	Fri	10-12	HIT H42	V. Korkhov, Y. Barral, T. Ishikawa, M. Jagannathan, R. Kroschewski, G. Neurohr, M. Peter, A. E. Smith, B. Snijder, K. Weis	
529-0733-01L	Enzymes	W	6 credits	3G				
529-0733-01 G	Enzymes Lecture 2 hours on Monday, 09:45 - 11:30. 1 hour exercise Monday or Tuesday from second week on - according to agreement.			3 hrs	Mon Tue	09-10 10-12 12-13	HCI H8.1 HCI J6 HCI H2.1	D. Hilvert
551-1407-00L	RNA Biology Lecture Series I: Transcription & Processing & Translation	W	4 credits	2V				
551-1407-00 V	RNA Biology Lecture Series I: Transcription & Processing & Translation Does not take place this semester.			2 hrs				F. Allain, N. Ban, U. Kutay, further lecturers
551-1409-00L	RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics	W	4 credits	2V				
551-1409-00 V	RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics			2 hrs	Thu	16-18	HCI H8.1	J. Hall, M. Stoffel, further lecturers
551-0223-00L	Immunology III	W	4 credits	2V				
551-0223-00 V	Immunology III			2 hrs	Mon	10-12	HCI H8.1	M. Kopf, S. B. Freigang, J. Kisielow, S. R. Leibundgut, A. Oxenius, C. Schneider, R. Spörri, L. Tortola, E. Wetter Slack
227-0939-00L	Cell Biophysics	W	6 credits	4G				
227-0939-00 G	Cell Biophysics			4 hrs	Tue Thu	16-18 16-18	HG D7.2 ML F38	T. Zambelli
376-1305-01L	Neural Systems for Sensory, Motor and Higher Brain Functions Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO343 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a>	W	3 credits	2V				
376-1305-01 V	Neural Systems for Sensory, Motor and Higher Brain Functions **together with University of Zurich**  BE AWARE: Lecture starts already on 20.09.2021.  4 hours of self-study (preparation and post-study) per week are included in the course.			2 hrs	Mon 20.09.	10-12 10-12	I15 G40 I15 G40	G. Schratt, J. Bohacek, L. Filli, W. von der Behrens, further lecturers
376-1305-00L	Development of the Nervous System (University of Zurich) No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO344  Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a>	W	3 credits	2V				
376-1305-00 V	Development of the Nervous System (University of Zurich) **together with University of Zurich**  One hour of self-study per week is included in the course.			2 hrs	Mon	08-10	I15 G40	University lecturers
551-1423-00L	Current Topics in Metabolism and Disease	W	2 credits	1S				
551-1423-00 S	Current Topics in Metabolism and Disease Does not take place this semester. Permission from lecturers required for all students Findet ab HS2021 nicht mehr statt.			1 hrs				to be announced

## ►► Elective Major: Molecular Health Sciences

## ►►► Elective Compulsory Concept Courses

See D-BIOL Master Studies Guide

Number	Title	Type	ECTS	Hours	Lecturers
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>	<b>W</b>	<b>6 credits</b>	<b>4V</b>	

Please mind the ETH enrolment deadlines for UZH students:  
<https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html>

551-0309-00 V	Concepts in Modern Genetics **gemeinsam mit der Universität Zürich**		4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	Y. Barral, D. Bopp, A. Hajnal, O. Voinnet
<b>551-1299-00L</b>	<b>Introduction to Bioinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
551-1299-00 G	Introduction to Bioinformatics Lecture: Mo 12-14 Exercises: Mo 14-16		4 hrs	Mon	12-14 14-16	HPT C103 HPT C103	S. Sunagawa, M. Gstaiger, A. Kahles, G. Rätsch, B. Snijder, E. Vayena, C. von Mering, N. Zamboni

## ▶▶▶ Elective Compulsory Master Courses

See D-BIOL Master Studies Guide

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-0571-00L</b>	<b>From DNA to Diversity (University of Zurich)</b> No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO336	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
551-0571-00 V	From DNA to Diversity (University of Zurich) **Course at University of Zurich**			2 hrs				A. Hajnal, D. Bopp
<b>551-1303-00L</b>	<b>Cellular Biochemistry of Health and Disease</b> Number of participants limited to 20.	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
551-1303-00 S	Cellular Biochemistry of Health and Disease			2 hrs	Fri	10-12	HIT H42	V. Korkhov, Y. Barral, T. Ishikawa, M. Jagannathan, R. Kroschewski, G. Neurohr, M. Peter, A. E. Smith, B. Snijder, K. Weis
<b>551-0512-00L</b>	<b>Current Topics in Molecular and Cellular Neurobiology</b> Number of participants limited to 8.	<b>W</b>	<b>2 credits</b>	<b>1S</b>				
551-0512-00 S	Current Topics in Molecular and Cellular Neurobiology Does not take place this semester. Permission from lecturers required for all students This course may be taken only once, either in the spring semester or in the autumn semester.			1 hrs				U. Suter
<b>551-1153-00L</b>	<b>Systems Biology of Metabolism</b> Number of participants limited to 15.	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
551-1153-00 V	Systems Biology of Metabolism			2 hrs	Mon	10-12	HPL D34	U. Sauer, N. Zamboni, M. Zampieri
<b>551-1171-00L</b>	<b>Immunology: From Milestones to Current Topics</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
551-1171-00 S	Immunology: From Milestones to Current Topics Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.			2 hrs	Tue	14-16	HIT H51	B. Ludewig, J. Kisielow, A. Oxenius, L. Tortola, University lecturers
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-6105-00 V	Epidemiology and Prevention			2 hrs	Wed	12-14	CHN C14	M. Puhon, R. Heusser
<b>752-4009-00L</b>	<b>Molecular Biology of Foodborne Pathogens</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-4009-00 V	Molecular Biology of Foodborne Pathogens			2 hrs	Thu	10-12	HG E1.2	M. Loessner, M. Schmelcher, M. Schuppler, E. Wetter Slack
<b>752-6101-00L</b>	<b>Dietary Etiologies of Chronic Disease</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-6101-00 V	Dietary Etiologies of Chronic Disease			2 hrs	Thu	08-10	CAB G11	M. B. Zimmermann
<b>376-0300-00L</b>	<b>Translational Science for Health and Medicine</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
376-0300-00 G	Translational Science for Health and Medicine ■			2 hrs	Fri	10-12	IFW A36	J. Goldhahn, C. Wolfrum
<b>701-1703-00L</b>	<b>Evolutionary Medicine for Infectious Diseases</b> Number of participants limited to 35.	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-1703-00 G	Evolutionary Medicine for Infectious Diseases			2 hrs	Fri	10-12	HG E41	A. Hall
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				

636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2).</i> <i>Attention: Lecture starts on Wednesday, September 29 2021</i>		3 hrs	Wed	13-16	BSA E46 HG D16.2	<b>M. Fussenegger</b>
<b>551-1407-00L</b>	<b>RNA Biology Lecture Series I: Transcription &amp; Processing &amp; Translation</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>			
551-1407-00 V	RNA Biology Lecture Series I: Transcription & Processing & Translation <i>Does not take place this semester.</i>		2 hrs				<b>F. Allain</b> , N. Ban, U. Kutay, further lecturers
<b>551-1409-00L</b>	<b>RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>			
551-1409-00 V	RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics		2 hrs	Thu	16-18	HCI H8.1	<b>J. Hall</b> , M. Stoffel, further lecturers
<b>551-1423-00L</b>	<b>Current Topics in Metabolism and Disease</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>			
551-1423-00 S	Current Topics in Metabolism and Disease <i>Does not take place this semester.</i> <i>Permission from lecturers required for all students</i> <i>Ffindet ab HS2021 nicht mehr statt.</i>		1 hrs				to be announced

## ►► Elective Major: Biochemistry

### ►►► Compulsory Concept Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3	<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp

### ►►► Compulsory Master Course

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-1303-00L</b>	<b>Cellular Biochemistry of Health and Disease</b> <i>Number of participants limited to 20.</i>	<b>O</b>	<b>4 credits</b>	<b>2S</b>				
551-1303-00 S	Cellular Biochemistry of Health and Disease			2 hrs	Fri	10-12	HIT H42	<b>V. Korkhov</b> , Y. Barral, T. Ishikawa, M. Jagannathan, R. Kroschewski, G. Neurohr, M. Peter, A. E. Smith, B. Snijder, K. Weis

### ►►► Elective Compulsory Concept Courses

See D-BIOL Master Studies Guide

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-0307-00L</b>	<b>Molecular and Structural Biology I: Protein Structure and Function</b> <i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function			2 hrs	Mon	14-16	HCI J7	<b>R. Glockshuber</b> , K. Locher, E. Weber-Ban
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b> <i>Information for UZH students:</i> <i>Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students:</i> <i><a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>4V</b>				
551-0309-00 V	Concepts in Modern Genetics <i>**gemeinsam mit der Universität Zürich**</i>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet

### ►►► Elective Compulsory Master Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0733-01L</b>	<b>Enzymes</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0733-01 G	Enzymes <i>Lecture 2 hours on Monday, 09:45 - 11:30.</i> <i>1 hour exercise Monday or Tuesday from second week on - according to agreement.</i>			3 hrs	Mon Tue	09-10 10-12 12-13	HCI H8.1 HCI J6 HCI H2.1	<b>D. Hilvert</b>
<b>551-1153-00L</b>	<b>Systems Biology of Metabolism</b> <i>Number of participants limited to 15.</i>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
551-1153-00 V	Systems Biology of Metabolism			2 hrs	Mon	10-12	HPL D34	<b>U. Sauer</b> , N. Zamboni, M. Zampieri
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>				



636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>	3 hrs	Wed	14-17	HG D3.2	<b>J. Stelling</b>	
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>	2 hrs	Fri	10-12	HG D1.2	<b>J. Stelling</b>	
<b>401-0649-00L</b>	<b>Applied Statistical Regression</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>			
401-0649-00 V	Applied Statistical Regression		2 hrs	Mon	08-10	HG E1.2	<b>M. Dettling</b>
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>		1 hrs	Mon/2w	10-12	HG E1.2	<b>M. Dettling</b>
<b>529-0041-00L</b>	<b>Modern Mass Spectrometry, Hyphenated W Methods, and Chemometrics</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>			
529-0041-00 G	Moderne Massenspektroskopie, gekoppelte Analysenmethoden, Chemometrie		3 hrs	Mon Wed	10-12 12-13	HCI H2.1 HCI H2.1	<b>R. Zenobi</b> , B. Hattendorf, P. Sinués Martinez-Lozano
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>			
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2). Attention: Lecture starts on Wednesday, September 29 2021</i>		3 hrs	Wed	13-16	BSA E46 HG D16.2	<b>M. Fussenegger</b>
<b>551-1407-00L</b>	<b>RNA Biology Lecture Series I: Transcription &amp; Processing &amp; Translation</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>			
551-1407-00 V	RNA Biology Lecture Series I: Transcription & Processing & Translation <i>Does not take place this semester.</i>		2 hrs				<b>F. Allain</b> , N. Ban, U. Kutay, further lecturers
<b>551-1409-00L</b>	<b>RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>			
551-1409-00 V	RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics		2 hrs	Thu	16-18	HCI H8.1	<b>J. Hall</b> , M. Stoffel, further lecturers
<b>227-0939-00L</b>	<b>Cell Biophysics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0939-00 G	Cell Biophysics		4 hrs	Tue Thu	16-18 16-18	HG D7.2 ML F38	<b>T. Zambelli</b>
<b>►►► Elective Concept Courses</b>							
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>			<b>Lecturers</b>
<b>551-0307-00L</b>	<b>Molecular and Structural Biology I: Protein Structure and Function</b> <i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function		2 hrs	Mon	14-16	HCI J7	<b>R. Glockshuber</b> , K. Locher, E. Weber-Ban
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.  Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>4V</b>			
551-0309-00 V	Concepts in Modern Genetics <b>**gemeinsam mit der Universität Zürich**</b>		4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
551-0313-00 V	Microbiology (Part I)		2 hrs	Mon	10-12	HCI G7	<b>W.-D. Hardt</b> , L. Eberl, J. Piel, M. Pilhofer
<b>551-0317-00L</b>	<b>Immunology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
551-0317-00 V	Immunology I		2 hrs	Tue	08-10	HG G3	<b>M. Kopf</b> , A. Oxenius
<b>529-0731-00L</b>	<b>Nucleic Acids and Carbohydrates</b> <i>Note for BSc Biology students: Only one of the two concept courses 529-0731-00 Nucleic Acids and Carbohydrates (autumn semester) or 529-0732-00 Proteins and Lipids (spring semester) can be counted for the Bachelor's degree.</i>	<b>W</b>	<b>6 credits</b>	<b>3G</b>			

529-0731-00 G	Nucleic Acids and Carbohydrates <i>Lecture 2 hours on Tue 9:45-11:30. Exercises: 1 hour according to agreement, presumably Tue 7:45-8:30 or 8:45-9:30. Exercises will start in the second week of semester.</i>	3 hrs	Tue	08-09 09-10 10-12	HCI D2 HCI D2 HCI J3	<b>D. Hilvert</b> , P. A. Kast, S. J. Sturla, H. Wennemers
---------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	-----	-------------------------	----------------------------	---------------------------------------------------------------

## ►► Elective Major: Molecular Plant Biology

### ►►► Compulsory Master Courses

Number	Title	Type	ECTS	Hours				Lecturers
551-0120-00L	<b>Plant Biology Colloquium (Autumn Semester)</b> <i>This compulsory course is required only once. It may be taken in autumn as course 551-0120-00 "Plant Biology Colloquium (Autumn Semester)" or in spring as course 551-0120-01 "Plant Biology Colloquium (Spring Semester)".</i>	W	2 credits	1K				
551-0120-00 K	Plant Biology Colloquium (Autumn Semester)			1 hrs	Tue 03.01.- 18.02.	16-17 17-18	LFW C5 CAB G51	<b>C. Sánchez-Rodríguez,</b> A. Rodríguez-Villalon, O. Voinnet, S. C. Zeeman

### ►►► Compulsory Concept Courses

Number	Title	Type	ECTS	Hours				Lecturers
551-0311-00L	Molecular Life of Plants	O	6 credits	4V				
551-0311-00 V	Molecular Life of Plants			4 hrs	Mon Tue	08-10 10-12	HPL D32 LFO C13	S. C. Zeeman, K. Bomblies, A. Rodríguez-Villalon, C. Sánchez-Rodríguez, O. Voinnet

### ►►► Elective Compulsory Concept Courses

See D-BIOL Master Studies Guide

Number	Title	Type	ECTS	Hours					Lecturers
551-0307-00L	<b>Molecular and Structural Biology I: Protein Structure and Function</b> <i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>	W	3 credits	2V					
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function			2 hrs	Mon	14-16	HCI J7	<b>R. Glockshuber</b> , K. Locher, E. Weber-Ban	
551-0309-00L	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	W	6 credits	4V					
551-0309-00 V	Concepts in Modern Genetics <i>**gemeinsam mit der Universität Zürich**</i>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet	
551-0313-00L	<b>Microbiology (Part I)</b>	W	3 credits	2V					
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7	<b>W.-D. Hardt</b> , L. Eberl, J. Piel, M. Pilhofer	
551-0319-00L	<b>Cellular Biochemistry (Part I)</b>	W	3 credits	2V					
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3	<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp	
701-2413-00L	<b>Evolutionary Genetics</b>	W	6 credits	4V					
701-1413-00 V	Population and Quantitative Genetics			2 hrs	Mon	14-16	HG D7.2	<b>T. Städler</b> , J. Stapley	
701-1413-01 V	Ecological Genetics			2 hrs	Mon	10-12	ML F36	<b>A. Widmer</b> , S. Fior, M. C. Fischer	
529-0731-00L	<b>Nucleic Acids and Carbohydrates</b> <i>Note for BSc Biology students: Only one of the two concept courses 529-0731-00 Nucleic Acids and Carbohydrates (autumn semester) or 529-0732-00 Proteins and Lipids (spring semester) can be counted for the Bachelor's degree.</i>	W	6 credits	3G					
529-0731-00 G	Nucleic Acids and Carbohydrates <i>Lecture 2 hours on Tue 9:45-11:30. Exercises: 1 hour according to agreement, presumably Tue 7:45-8:30 or 8:45-9:30. Exercises will start in the second week of semester.</i>			3 hrs	Tue	08-09 09-10 10-12	HCI D2 HCI D2 HCI J3	<b>D. Hilvert</b> , P. A. Kast, S. J. Sturla, H. Wennemers	

### ►►► Elective Compulsory Master Courses

Number	Title	Type	ECTS	Hours			Lecturers
--------	-------	------	------	-------	--	--	-----------

<b>751-4801-00L</b>	<b>System-Oriented Management of Herbivore Insects</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-4801-00 G	Systembezogene Bekämpfung herbivorer Insekten <i>Does not take place this semester.</i>			2 hrs					to be announced
<b>529-0733-01L</b>	<b>Enzymes</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0733-01 G	Enzymes <i>Lecture 2 hours on Monday, 09:45 - 11:30. 1 hour exercise Monday or Tuesday from second week on - according to agreement.</i>			3 hrs	Mon	09-10	HCI H8.1		<b>D. Hilvert</b>
					Tue	10-12	HCI J6		
						12-13	HCI H2.1		
<b>751-5121-00L</b>	<b>Insect Ecology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
	<i>The number of participants is limited to 30.</i>								
751-5121-00 V	Insect Ecology			2 hrs	Tue	14-16	LFW B3		<b>C. De Moraes</b> , M. Mescher, N. Stanczyk
<b>551-1153-00L</b>	<b>Systems Biology of Metabolism</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
	<i>Number of participants limited to 15.</i>								
551-1153-00 V	Systems Biology of Metabolism			2 hrs	Mon	10-12	HPL D34		<b>U. Sauer</b> , N. Zamboni, M. Zampieri
<b>751-4504-00L</b>	<b>Plant Pathology I</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-4504-00 G	Plant Pathology I			2 hrs	Wed	14-16	LFW C5		<b>B. McDonald</b>
<b>551-1407-00L</b>	<b>RNA Biology Lecture Series I: Transcription &amp; Processing &amp; Translation</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-1407-00 V	RNA Biology Lecture Series I: Transcription & Processing & Translation <i>Does not take place this semester.</i>			2 hrs					<b>F. Allain</b> , N. Ban, U. Kutay, further lecturers
<b>551-1409-00L</b>	<b>RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-1409-00 V	RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics			2 hrs	Thu	16-18	HCI H8.1		<b>J. Hall</b> , M. Stoffel, further lecturers

### ▶▶▶ Elective Concept Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>551-0307-00L</b>	<b>Molecular and Structural Biology I: Protein Structure and Function</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
	<i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>								
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function			2 hrs	Mon	14-16	HCI J7		<b>R. Glockshuber</b> , K. Locher, E. Weber-Ban
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>					
	<i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>								
	<i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>								
551-0309-00 V	Concepts in Modern Genetics <i>**gemeinsam mit der Universität Zürich**</i>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60		<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7		<b>W.-D. Hardt</b> , L. Eberl, J. Piel, M. Pilhofer
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3		<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp

### ▶▶ Elective Major: Systems Biology

### ▶▶▶ Elective Compulsory Concept Courses

See D-BIOL Master Studies Guide

Number	Title	Type	ECTS	Hours					Lecturers
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3		<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>					
	<i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>								
	<i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>								

degree-  
courses/special-  
students/special-  
students-university-of-zurich.html

551-0309-00 V	Concepts in Modern Genetics <i>**gemeinsam mit der Universität Zürich**</i>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7	<b>W.-D. Hardt</b> , L. Eberl, J. Piel, M. Pilhofer
<b>551-1299-00L</b>	<b>Introduction to Bioinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
551-1299-00 G	Introduction to Bioinformatics <i>Lecture: Mo 12-14</i> <i>Exercises: Mo 14-16</i>			4 hrs	Mon	12-14 14-16	HPT C103 HPT C103	<b>S. Sunagawa</b> , M. Gstaiger, A. Kahles, G. Rätsch, B. Snijder, E. Vayena, C. von Mering, N. Zamboni

### ▶▶▶ Elective Compulsory Master Courses I: Computation

Number	Title	Type	ECTS	Hours				Lecturers
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>				
636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00.</i> <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i> <i>In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>			3 hrs	Wed	14-17	HG D3.2	<b>J. Stelling</b>
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>			2 hrs	Fri	10-12	HG D1.2	<b>J. Stelling</b>
<b>636-0706-00L</b>	<b>Spatio-Temporal Modelling in Biology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
636-0706-00 G	Spatio-Temporal Modelling in Biology <i>The lecture course will be offered as "inverted classroom".</i> <i>Lecture videos, slides, and scripts will be made available via Moodle, and students are expected to watch the videos ahead of the lecture. The 45-minute in person lecture time serves to answer student question where necessary, and to discuss application examples with students to deepen their understanding of the material. Similarly, problem sheets and solutions will be made available ahead of the tutorial. The tutorials serve to address further questions. As students from both Basel and Zurich participate in the course, lectures and tutorials will be offered in alternating weeks in Basel and Zurich. Remote participation is always possible. It is a new form of teaching. Feedback will be most welcome.</i> <i>Thursday 10-11 Q&amp;A Lecture (BS)</i> <i>Thursday 11-12 Tutorial (BS)</i> <i>Friday 11-12 Q&amp;A Lecture (ZH)</i> <i>Friday 12-13 Tutorial (ZH)</i> <i>Course starts: Friday, Sept. 24 in ZH</i>			3 hrs	Thu Fri	10-11 11-12 11-12 12-13	BSD G207.1 BSD G207.1 HG D16.2 HG D16.2	<b>D. Iber</b>

### ▶▶▶ Elective Compulsory Master Courses II: Biology

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-1153-00L</b>	<b>Systems Biology of Metabolism</b> <i>Number of participants limited to 15.</i>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
551-1153-00 V	Systems Biology of Metabolism			2 hrs	Mon	10-12	HPL D34	<b>U. Sauer</b> , N. Zamboni, M. Zampieri
<b>551-0571-00L</b>	<b>From DNA to Diversity (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich.</i> <i>Book the corresponding module directly at UZH as an incoming student.</i> <i>UZH Module Code: BIO336</i>  <i>Mind the enrolment deadlines at UZH:</i> <i><a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
551-0571-00 V	From DNA to Diversity (University of Zurich) <b>**Course at University of Zurich**</b>			2 hrs				<b>A. Hajnal</b> , D. Bopp
<b>636-0009-00L</b>	<b>Evolutionary Dynamics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>				
636-0009-00 V	Evolutionary Dynamics <i>Attention: lecture starts on Thursday, 30 Sep 2021</i>  <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked for students to follow the course from there.</i>			2 hrs	Thu	09-11	BSA E46 HG D16.2	<b>N. Beerenwinkel</b>
636-0009-00 U	Evolutionary Dynamics <i>Online: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there</i>			1 hrs	Thu	11-12	BSA E46 HG D16.2	<b>N. Beerenwinkel</b>

636-0009-00 A	Evolutionary Dynamics <i>Project Work (compulsory continuous performance assessment), no fixed presence required.</i>			2 hrs					<b>N. Beerenwinkel</b>
<b>227-0939-00L</b>	<b>Cell Biophysics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0939-00 G	Cell Biophysics			4 hrs	Tue Thu	16-18 16-18	HG D7.2 ML F38		<b>T. Zambelli</b>

## ►► Elective Major: Molecular and Structural Biology

### ►►► Compulsory Concept Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>551-0307-00L</b>	<b>Molecular and Structural Biology I: Protein Structure and Function</b> <i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function			2 hrs	Mon	14-16	HCI J7		<b>R. Glockshuber</b> , K. Locher, E. Weber-Ban

### ►►► Elective Compulsory Concept Courses

See D-BIOL Master Studies Guide

Number	Title	Type	ECTS	Hours					Lecturers
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3		<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp
<b>529-0731-00L</b>	<b>Nucleic Acids and Carbohydrates</b> <i>Note for BSc Biology students: Only one of the two concept courses 529-0731-00 Nucleic Acids and Carbohydrates (autumn semester) or 529-0732-00 Proteins and Lipids (spring semester) can be counted for the Bachelor's degree.</i>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0731-00 G	Nucleic Acids and Carbohydrates <i>Lecture 2 hours on Tue 9:45-11:30. Exercises: 1 hour according to agreement, presumably Tue 7:45-8:30 or 8:45-9:30. Exercises will start in the second week of semester.</i>			3 hrs	Tue	08-09 09-10 10-12	HCI D2 HCI D2 HCI J3		<b>D. Hilvert</b> , P. A. Kast, S. J. Sturla, H. Wennemers
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7		<b>W.-D. Hardt</b> , L. Eberl, J. Piel, M. Pilhofer
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>4V</b>					
551-0309-00 V	Concepts in Modern Genetics <i>**gemeinsam mit der Universität Zürich**</i>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60		<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet
<b>551-1299-00L</b>	<b>Introduction to Bioinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
551-1299-00 G	Introduction to Bioinformatics <i>Lecture: Mo 12-14 Exercises: Mo 14-16</i>			4 hrs	Mon	12-14 14-16	HPT C103 HPT C103		<b>S. Sunagawa</b> , M. Gstaiger, A. Kahles, G. Rätsch, B. Snijder, E. Vayena, C. von Mering, N. Zamboni

### ►►► Elective Compulsory Master Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0733-01L</b>	<b>Enzymes</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0733-01 G	Enzymes <i>Lecture 2 hours on Monday, 09:45 - 11:30. 1 hour exercise Monday or Tuesday from second week on - according to agreement.</i>			3 hrs	Mon Tue	09-10 10-12 12-13	HCI H8.1 HCI J6 HCI H2.1		<b>D. Hilvert</b>
<b>551-1401-00L</b>	<b>Advanced Protein Engineering (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BCH420</i>  <i>Restricted to max. 10 students from ETH</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					

551-1401-00 G	Advanced Protein Engineering (University of Zurich) <i>**Course at University of Zurich**</i>		2 hrs						<b>A. Plückthun</b>
<b>551-1153-00L</b>	<b>Systems Biology of Metabolism</b> <i>Number of participants limited to 15.</i>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-1153-00 V	Systems Biology of Metabolism		2 hrs	Mon	10-12	HPL D34			<b>U. Sauer</b> , N. Zamboni, M. Zampieri
<b>529-0004-01L</b>	<b>Classical Simulation of (Bio)Molecular Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
529-0004-01 G	Classical Simulation of (Bio)Molecular Systems <i>2 hr lecture + 2 hr exercise session in our computer room; the students can choose between two alternative exercise sessions, either on Tuesdays 7:30-9:30 a.m. or on Thursdays 7:45-9:45 a.m.; the course was previously named CSCBP (the content remains the same, but the new title is more adequate)</i>		4 hrs	Tue	10-12	HCI D2			<b>P. H. Hünenberger</b> , J. Dolenc, S. Riniker
<b>401-0649-00L</b>	<b>Applied Statistical Regression</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0649-00 V	Applied Statistical Regression		2 hrs	Mon	08-10	HG E1.2			<b>M. Dettling</b>
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>		1 hrs	Mon/2w	10-12	HG E1.2			<b>M. Dettling</b>
<b>401-6215-00L</b>	<b>Using R for Data Analysis and Graphics (Part I)</b>	<b>W</b>	<b>1.5 credits</b>	<b>1G</b>					
401-6215-00 G	Using R for Data Analysis and Graphics (Part I)		14s hrs	Tue/1	14-16	CAB G11			<b>M. Mächler</b>
<b>529-0041-00L</b>	<b>Modern Mass Spectrometry, Hyphenated Methods, and Chemometrics</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0041-00 G	Moderne Massenspektroskopie, gekoppelte Analysenmethoden, Chemometrie		3 hrs	Mon Wed	10-12 12-13	HCI H2.1 HCI H2.1			<b>R. Zenobi</b> , B. Hattendorf, P. Sinués Martínez-Lozano
<b>551-1407-00L</b>	<b>RNA Biology Lecture Series I: Transcription &amp; Processing &amp; Translation</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-1407-00 V	RNA Biology Lecture Series I: Transcription & Processing & Translation <i>Does not take place this semester.</i>		2 hrs						<b>F. Allain</b> , N. Ban, U. Kutay, further lecturers
<b>551-1409-00L</b>	<b>RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-1409-00 V	RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics		2 hrs	Thu	16-18	HCI H8.1			<b>J. Hall</b> , M. Stoffel, further lecturers
<b>227-0939-00L</b>	<b>Cell Biophysics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0939-00 G	Cell Biophysics		4 hrs	Tue Thu	16-18 16-18	HG D7.2 ML F38			<b>T. Zambelli</b>

## ►► Elective Major: Biological Chemistry

### ►►► Compulsory Concept Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0731-00L</b>	<b>Nucleic Acids and Carbohydrates</b> <i>Note for BSc Biology students: Only one of the two concept courses 529-0731-00 Nucleic Acids and Carbohydrates (autumn semester) or 529-0732-00 Proteins and Lipids (spring semester) can be counted for the Bachelor's degree.</i>	<b>O</b>	<b>6 credits</b>	<b>3G</b>					
529-0731-00 G	Nucleic Acids and Carbohydrates <i>Lecture 2 hours on Tue 9:45-11:30. Exercises: 1 hour according to agreement, presumably Tue 7:45-8:30 or 8:45-9:30. Exercises will start in the second week of semester.</i>			3 hrs	Tue	08-09 09-10 10-12	HCI D2 HCI D2 HCI J3		<b>D. Hilvert</b> , P. A. Kast, S. J. Sturla, H. Wennemers

### ►►► Elective Compulsory Master Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0733-01L</b>	<b>Enzymes</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0733-01 G	Enzymes <i>Lecture 2 hours on Monday, 09:45 - 11:30. 1 hour exercise Monday or Tuesday from second week on - according to agreement.</i>			3 hrs	Mon Tue	09-10 10-12 12-13	HCI H8.1 HCI J6 HCI H2.1		<b>D. Hilvert</b>
<b>529-0004-01L</b>	<b>Classical Simulation of (Bio)Molecular Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
529-0004-01 G	Classical Simulation of (Bio)Molecular Systems <i>2 hr lecture + 2 hr exercise session in our computer room; the students can choose between two alternative exercise sessions, either on Tuesdays 7:30-9:30 a.m. or on Thursdays 7:45-9:45 a.m.; the course was previously named CSCBP (the content remains the same, but the new title is more adequate)</i>			4 hrs	Tue	10-12	HCI D2		<b>P. H. Hünenberger</b> , J. Dolenc, S. Riniker
<b>529-0233-01L</b>	<b>Organic Synthesis: Methods and Strategies</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0233-01 G	Organic Synthesis: Methods and Strategies <i>Attendance of the accompanying exercise sessions is strongly recommended.</i>			3 hrs	Wed	13-16 14-16	HCI J3 HCI H8.1 HCI J343		<b>E. M. Carreira</b>

<b>529-0243-01L</b>	<b>Transition Metal Catalysis: From Mechanisms to Applications</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0243-01 G	Transition Metal Catalysis: From Mechanisms to Applications			3 hrs	Fri	09-12	HCI D2	<b>B. Morandi</b>	
<b>529-0041-00L</b>	<b>Modern Mass Spectrometry, Hyphenated Methods, and Chemometrics</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0041-00 G	Moderne Massenspektroskopie, gekoppelte Analysenmethoden, Chemometrie			3 hrs	Mon Wed	10-12 12-13	HCI H2.1 HCI H2.1	<b>R. Zenobi</b> , B. Hattendorf, P. Sinués Martínez-Lozano	
<b>529-0240-00L</b>	<b>Chemical Biology - Peptides</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0240-00 G	Chemical Biology - Peptides <i>Lecture: 2 hours, 8:45 - 10:30 on Thursday</i> <i>Exercise: 1 hour, 7:45 - 8:30 or 10:45 - 11:30 (immediately after the lecture) on Thursday. Exercises start in the second week.</i>			3 hrs	Thu	08-09 09-11 11-12 23.09.	HCI J4 HCI J4 HCI J4 HIL E8	<b>H. Wennemers</b>	
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2).</i> <i>Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2	<b>M. Fussenegger</b>	
<b>551-1407-00L</b>	<b>RNA Biology Lecture Series I: Transcription &amp; Processing &amp; Translation</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-1407-00 V	RNA Biology Lecture Series I: Transcription & Processing & Translation <i>Does not take place this semester.</i>			2 hrs				<b>F. Allain</b> , N. Ban, U. Kutay, further lecturers	
<b>551-1409-00L</b>	<b>RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-1409-00 V	RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics			2 hrs	Thu	16-18	HCI H8.1	<b>J. Hall</b> , M. Stoffel, further lecturers	
<b>529-0241-10L</b>	<b>Advanced Methods and Strategies in Synthesis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0241-10 G	Advanced Methods and Strategies in Synthesis <i>Lecture: 13–15</i> <i>Exercises: 15–16</i>			3 hrs	Mon	13-15 15-16	HCI J4 HCI J4 HIT J51 HIT J52 HIL E3 HIL E3	<b>J. W. Bode</b>	
					27.09. 01.11.	13-16 13-16			
<b>227-0939-00L</b>	<b>Cell Biophysics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0939-00 G	Cell Biophysics			4 hrs	Tue Thu	16-18 16-18	HG D7.2 ML F38	<b>T. Zambelli</b>	

### ▶▶▶ Elective Concept Courses

Number	Title	Type	ECTS	Hours	Lecturers				
<b>551-0307-00L</b>	<b>Molecular and Structural Biology I: Protein Structure and Function</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
	<i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>								
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function			2 hrs	Mon	14-16	HCI J7	<b>R. Glockshuber</b> , K. Locher, E. Weber-Ban	
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3	<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp	
<b>551-1299-00L</b>	<b>Introduction to Bioinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
551-1299-00 G	Introduction to Bioinformatics <i>Lecture: Mo 12-14</i> <i>Exercises: Mo 14-16</i>			4 hrs	Mon	12-14 14-16	HPT C103 HPT C103	<b>S. Sunagawa</b> , M. Gstaiger, A. Kahles, G. Rätsch, B. Snijder, E. Vayena, C. von Mering, N. Zamboni	

### ▶▶ Recommended Elective Courses (for all Master Majors)

Number	Title	Type	ECTS	Hours	Lecturers				
<b>851-0180-00L</b>	<b>Research Ethics</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					
	<i>Number of participants limited to 40</i>								
	<i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>								
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1	<b>G. Achermann</b> , P. Emch	

### ▶ Research Projects (for all Master Majors)

*Research projects neither accepted nor registered nor approved will not be credited.*

Number	Title	Type	ECTS	Hours	Lecturers				
<b>551-1801-00L</b>	<b>Research Project I</b>	<b>O</b>	<b>15 credits</b>	<b>34A</b>					
551-1801-00 A	Research Project I ■ <i>Note: a list of D-BIOL authorised supervisors names is given under <a href="https://www.biol.ethz.ch/en/studies/master/research-projects.html">https://www.biol.ethz.ch/en/studies/master/research-projects.html</a></i>			480s hrs	by appt.			Lecturers	

551-1801-01L	Research Project II	O	15 credits	34A		
551-1801-01 A	Research Project II ■			480s hrs	by appt.	Lecturers
	Note: a list of D-BIOL authorised supervisors names is given under <a href="https://www.biol.ethz.ch/en/studies/master/research-projects.html">https://www.biol.ethz.ch/en/studies/master/research-projects.html</a>					

## ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-BIOL.

## ► Master's Thesis

A Master's thesis neither accepted nor registered nor approved will not be credited.

Number	Title	Type	ECTS	Hours	Lecturers
551-1800-00L	<b>Master's Thesis</b> Only students who fulfill the following criteria are allowed to begin with their master thesis: a. successful completion of the bachelor programme; b. fulfilling of any additional requirements necessary to gain admission to the master programme; c have acquired at least 30 credits in the category "research projects".	O	30 credits	64D	
551-1800-00 D	Master's Thesis ■ Note: the examiners may include only those persons who are authorised by the Department of Biology to supervise a Master thesis (see list of names under "Lernmaterialien" > "Information")			900s hrs	by appt. Lecturers

## ► Master's Examination

Number	Title	Type	ECTS	Hours	Lecturers
551-1800-01L	<b>Master's Examination</b> Only students who fulfill the following criteria are admitted for the master examination a. successful completion of the bachelor programme; b. fulfilling of any additional requirements necessary to gain admission to the master programme.	O	4 credits		
551-1800-01 A	Master's Examination ■ Note: the examiners may include only those persons who are authorised by the Department of Biology to supervise a Master thesis (see list of names under the <a href="http://www.biol.ethz.ch/education/mscbiology/msctheses/Liste_MA_Betreuer_aktuell.pdf">http://www.biol.ethz.ch/education/mscbiology/msctheses/Liste_MA_Betreuer_aktuell.pdf</a>			4.5s hrs	by appt. Lecturers

## Biology Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.



# Biomedical Engineering Master

## ► Track Courses

### ►► Bioelectronics

### ►►► Track Core Courses

During the Master programme, a minimum of 12 CP must be obtained from track core courses.

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					<b>B. Nelson, N. Shamsudhin</b>
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60		
<b>151-0605-00L</b>	<b>Nanosystems</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					<b>A. Stemmer</b>
151-0605-00 G	Nanosystems <i>Lecture: Thursday 10-13. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Exercises: will take place in the laboratories.</i>			4 hrs	Thu	10-13	ML F40		
<b>151-0621-00L</b>	<b>Microsystems I: Process Technology and Integration</b>	<b>W</b>	<b>6 credits</b>	<b>3V+3U</b>					<b>C. Hierold, M. Haluska</b>
151-0621-00 V	Microsystems I: Process Technology and Integration <i>The lecture starts in the second week of the Semester.</i>			3 hrs	Thu	13-16	HG E5		
151-0621-00 U	Microsystems I: Process Technology and Integration <i>The exercise starts in the third week of the Semester.</i>			3 hrs	Tue	16-19	HG E1.2		<b>M. Haluska</b>
<b>227-0105-00L</b>	<b>Introduction to Estimation and Machine Learning</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					<b>H.-A. Loeliger</b>
227-0105-00 G	Introduction to Estimation and Machine Learning			4 hrs	Fri	14-18	ETF C1		
<b>227-0311-00L</b>	<b>Qubits, Electrons, Photons</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>					<b>T. Zambelli</b>
227-0311-00 V	Qubits, Electrons, Photons			3 hrs	Thu Fri	08-10 13-14	CHN F42 ETZ E9		
227-0311-00 U	Qubits, Electrons, Photons			2 hrs	Wed	10-12	HG D3.2		<b>T. Zambelli</b>
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					<b>S. Kozerke, K. P. Prüssmann</b>
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>			5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7		
<b>227-0386-00L</b>	<b>Biomedical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					<b>J. Vörös, S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong</b>
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1		
<b>402-0674-00L</b>	<b>Physics in Medical Research: From Atoms to Cells</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					<b>B. K. R. Müller</b>
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1		
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1		<b>B. K. R. Müller</b>
<b>227-0393-10L</b>	<b>Bioelectronics and Biosensors</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					<b>J. Vörös, M. F. Yanik</b>
227-0393-10 V	Bioelectronics and Biosensors			2 hrs	Fri	09-11	HG E1.2		
227-0393-10 U	Bioelectronics and Biosensors			2 hrs	Fri	08-09 11-12	HG E1.2 HG E1.2		<b>M. F. Yanik, J. Vörös</b>
<b>227-0427-00L</b>	<b>Signal Analysis, Models, and Machine Learning</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					<b>H.-A. Loeliger</b>
227-0427-00 G	Signal Analysis, Models, and Machine Learning <i>This course was replaced by "Introduction to Estimation and Machine Learning" and "Advanced Signal Analysis, Modeling, and Machine Learning". Does not take place this semester.</i>			4 hrs					
<b>227-1037-00L</b>	<b>Introduction to Neuroinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1A</b>					<b>V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens</b>
227-1037-00 V	Introduction to Neuroinformatics			2 hrs	Thu	08-10	NO C60		
227-1037-00 U	Introduction to Neuroinformatics			1 hrs	Thu	10-11	NO C60		<b>V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens</b>
227-1037-00 A	Introduction to Neuroinformatics <i>Self-study, no fixed presence required.</i>			1 hrs					<b>V. Mante</b>
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					<b>K. Maniura, M. Rottmar, M. Zenobi-Wong</b>
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3		

### ►►► Recommended Elective Courses

These courses are particularly recommended for the Bioelectronics track. Please consult your track advisor if you wish to select other subjects.

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0166-00L</b>	<b>Analog Integrated Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					<b>T. Jang</b>
227-0166-00 V	Analog Integrated Circuits			2 hrs	Fri	10-12	ETZ E6		

227-0166-00 U	Analog Integrated Circuits <i>Some of the exercise lessons will take place in computer room ETZ D61.1. To be announced during the course lessons.</i>		2 hrs	Fri	14-16	ETZ E6	<b>T. Jang</b>
227-0447-00L	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>			
227-0447-00 V	Image Analysis and Computer Vision		3 hrs	Thu	14-17	HG F1	<b>L. Van Gool</b> , E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision		1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool</b> , E. Konukoglu, F. Yu
227-0468-00L	<b>Analog Signal Processing and Filtering</b> <i>Suitable for Master Students as well as Doctoral Students.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>			
227-0468-00 V	Analog Signal Processing and Filtering		2 hrs	Wed	08-10	CHN E46	<b>H. Schmid</b>
227-0468-00 U	Analog Signal Processing and Filtering		2 hrs	Wed	10-12	CHN E46	<b>H. Schmid</b>
227-0981-00L	<b>Cross-Disciplinary Research and Development in Medicine and Engineering</b> <i>A maximum of 12 medical degree students and 12 (biomedical) engineering degree students can be admitted, their number should be equal.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+2A</b>			
227-0981-00 V	Cross-Disciplinary Research and Development in Medicine and Engineering ■ <i>Permission from lecturers required for all students **together with University of Zurich**</i>		2 hrs	Tue	10-12	HG E41	<b>V. Kurtcuoglu</b> , D. de Julien de Zelicourt, M. Meboldt, M. Schmid Daners, O. Ullrich
227-0981-00 A	Cross-Disciplinary Research and Development in Medicine and Engineering ■ <i>Permission from lecturers required for all students **together with University of Zurich**</i>		2 hrs				<b>V. Kurtcuoglu</b> , D. de Julien de Zelicourt, M. Meboldt, M. Schmid Daners, O. Ullrich
	<i>In order to synchronize the schedule between ETH and UZH students, the course will start on Tuesday 28.09. The final lecture will be on 07.12.</i>						
	<i>IMPORTANT: Note that a special permission from the lecturers is required to register for this course. Contact the head lecturer to that end.</i>						
	<i>2 hours of group work to be scheduled independently by the joint teams of medical and engineering students.</i>						
227-0939-00L	<b>Cell Biophysics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0939-00 G	Cell Biophysics		4 hrs	Tue Thu	16-18 16-18	HG D7.2 ML F38	<b>T. Zambelli</b>
227-1033-00L	<b>Neuromorphic Engineering I</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>			
	<i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module INI404 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>						
227-1033-00 V	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich** The lecturers will communicate the exact lesson times of ONLINE courses.</i>		2 hrs	Mon	14-16	ON LINE	<b>T. Delbrück</b> , G. Indiveri, S.-C. Liu
227-1033-00 U	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich**</i>		3 hrs	by appt.			<b>T. Delbrück</b> , G. Indiveri, S.-C. Liu
	<i>Dates by arrangement.</i>						
227-2037-00L	<b>Physical Modelling and Simulation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-2037-00 G	Physical Modelling and Simulation		4 hrs	Thu	08-12	ETZ E6	<b>J. Smajic</b>
151-0509-00L	<b>Microscale Acoustofluidics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
151-0509-00 G	Microscale Acoustofluidics <i>The course will take place on 29.09.21 in ML F 36.</i>		3 hrs	Wed 29.09.	13-16 13-16	LFO C13 ML F36	<b>J. Dual</b>
151-0905-00L	<b>Medical Technology Innovation - From Concept to Clinics</b>	<b>W</b>	<b>4 credits</b>	<b>3P</b>			
151-0905-00 P	Medical Technology Innovation - From Concept to Clinics		3 hrs	Tue	08-11	LFW C4	<b>I. Herrmann</b>
376-1103-00L	<b>Frontiers in Nanotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>4V</b>			

376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri	10-12 14-16	HCP E47.3 HCP E47.3	V. Vogel, further lecturers
<b>376-1219-00L</b>	<b>Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-1219-00 V	Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions			2 hrs	Tue	08-10	CAB G11	R. Riener, O. Lambercy
<b>376-1351-00L</b>	<b>Micro/Nanotechnology and Microfluidics for Biomedical Applications</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
376-1351-00 V	Micro/Nanotechnology and Microfluidics for Biomedical Applications			2 hrs	Wed	16-18	ML H41.1	E. Delamarche
<b>529-0837-01L</b>	<b>Biomicrofluidic Engineering</b> <i>Number of participants limited to 25.</i>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0837-01 G	Biomicrofluidic Engineering			3 hrs	Mon Tue	16-18 12-13	HCI H8.1 HCI J7	A. de Mello
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2). Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2	M. Fussenegger
<b>227-0976-00L</b>	<b>Computational Psychiatry &amp; Computational Psychosomatics</b> <i>Number of participants limited to 24.</i>	<b>W</b>	<b>2 credits</b>	<b>4S</b>				
	<i>Information for UZH students: Enrolment to this course unit only possible at ETH Zurich. No enrolment to module BMT20002.</i>							
	<i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>							
227-0976-00 S	Computational Psychiatry & Computational Psychosomatics <i>Permission from lecturers required for all students **together with University of Zurich**</i>			60s hrs				K. Stephan
	<i>Room: SOF-E-7 (UZH): SOF-E-7 Schönberggasse 1 8001 Zurich <a href="https://www.plaene.uzh.ch/SOF/room/SOF-E-07">https://www.plaene.uzh.ch/SOF/room/SOF-E-07</a></i>							
	<i>The dates will be announced on <a href="https://www.tnu.ethz.ch/en/teaching">https://www.tnu.ethz.ch/en/teaching</a></i>							

## ►►► Biology Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0399-10L</b>	<b>Physiology and Anatomy for Biomedical Engineers I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
227-0399-10 G	Physiology and Anatomy for Biomedical Engineers I			2 hrs	Tue	08-10	ETZ E8		M. Wyss
<b>227-0945-00L</b>	<b>Cell and Molecular Biology for Engineers I</b> <i>This course is part I of a two-semester course.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
227-0945-00 G	Cell and Molecular Biology for Engineers I			2 hrs	Thu	10-12	LFW C5		C. Frei
<b>227-0949-00L</b>	<b>Biological Methods for Engineers (Basic Lab)</b> <i>Number of participants limited to 10.</i>	<b>W</b>	<b>3 credits</b>	<b>5P</b>					
227-0949-00 P	Biological Methods for Engineers (Basic Lab) ■ <i>Permission from lecturers required for all students Laboratory: Thu 16:00 - 18:00 ETZ C81.1</i>			70s hrs	Thu/2	13-16 16-18	ETZ H91 ETZ C81.1		C. Frei

## ►► Bioimaging

## ►►► Track Core Courses

*During the Master programme, a minimum of 12 CP must be obtained from track core courses.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>			5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7		S. Kozerke, K. P. Prüssmann
<b>227-0386-00L</b>	<b>Biomedical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1		J. Vörös, S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1		L. Van Gool, E. Konukoglu, F. Yu

227-0447-00 U	Image Analysis and Computer Vision		1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool</b> , E. Konukoglu, F. Yu
<b>227-0965-00L</b>	<b>Micro and Nano-Tomography of Biological Tissues</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues		3 hrs	Mon	09-12	ETZ E9	<b>M. Stampanoni</b> , F. Marone Welford

### ▶▶▶ Recommended Elective Courses

*These courses are particularly recommended for the Bioimaging track. Please consult your track advisor if you wish to select other subjects.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0311-00L</b>	<b>Qubits, Electrons, Photons</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>				
227-0311-00 V	Qubits, Electrons, Photons			3 hrs	Thu	08-10	CHN F42	<b>T. Zambelli</b>
					Fri	13-14	ETZ E9	
227-0311-00 U	Qubits, Electrons, Photons			2 hrs	Wed	10-12	HG D3.2	<b>T. Zambelli</b>
<b>227-0421-00L</b>	<b>Deep Learning in Artificial and Biological Neuronal Networks</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0421-00 G	Deep Learning in Artificial and Biological Neuronal Networks			3 hrs	Wed	09-12	ML F34	<b>B. Grewe</b>
<b>227-0967-00L</b>	<b>Computational Neuroimaging Clinic</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
	<i>Prerequisite: Successful completion of course "Methods &amp; Models for fMRI Data Analysis", "Translational Neuromodeling" or "Computational Psychiatry"</i>							
227-0967-00 V	Computational Neuroimaging Clinic			2 hrs	Wed	10-12	Ex tern	<b>K. Stephan</b>
	<i>Place: WIL-F-105 at TNU (Wilfriedstrasse 6, 8032 Zürich)</i>							
<b>227-0969-00L</b>	<b>Methods &amp; Models for fMRI Data Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>				
227-0969-00 V	Methods & Models for fMRI Data Analysis			4 hrs	Tue	08-12	ETZ E6	<b>K. Stephan</b>
<b>227-0971-00L</b>	<b>Computational Psychiatry</b>	<b>W</b>	<b>3 credits</b>	<b>4S</b>				
	<i>Please note that participation in this course and the practical sessions requires additional registration at:</i>							
	<i><a href="http://www.translationalneuromodeling.org/cpcourse/">http://www.translationalneuromodeling.org/cpcourse/</a></i>							
227-0971-00 S	Computational Psychiatry			60s hrs	13.09.- 17.09.	08-18	ON LINE	<b>K. Stephan</b>
	<i>Block course from 13.09.2021 - 18.09.2021 8:00 - 18:30h</i>				18.09.	08-18	ON LINE	
<b>227-1033-00L</b>	<b>Neuromorphic Engineering I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>				
	<i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>							
	<i>Information for UZH students:</i>							
	<i>Enrolment to this course unit only possible at ETH. No enrolment to module INI404 at UZH.</i>							
	<i>Please mind the ETH enrolment deadlines for UZH students:</i>							
	<i><a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>							
227-1033-00 V	Neuromorphic Engineering I			2 hrs	Mon	14-16	ON LINE	<b>T. Delbrück</b> , G. Indiveri, S.-C. Liu
	<i>Permission from lecturers required for all students</i>							
	<i>**together with University of Zurich**</i>							
	<i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>							
227-1033-00 U	Neuromorphic Engineering I			3 hrs	by appt.			<b>T. Delbrück</b> , G. Indiveri, S.-C. Liu
	<i>Permission from lecturers required for all students</i>							
	<i>**together with University of Zurich**</i>							
	<i>Dates by arrangement.</i>							
<b>227-1037-00L</b>	<b>Introduction to Neuroinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1A</b>				
227-1037-00 V	Introduction to Neuroinformatics			2 hrs	Thu	08-10	NO C60	<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 U	Introduction to Neuroinformatics			1 hrs	Thu	10-11	NO C60	<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 A	Introduction to Neuroinformatics			1 hrs				<b>V. Mante</b>
	<i>Self-study, no fixed presence required.</i>							
<b>227-2037-00L</b>	<b>Physical Modelling and Simulation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-2037-00 G	Physical Modelling and Simulation			4 hrs	Thu	08-12	ETZ E6	<b>J. Smajic</b>
<b>151-0105-00L</b>	<b>Quantitative Flow Visualization</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0105-00 G	Quantitative Flow Visualization			3 hrs	Tue	10-13	ML H41.1	<b>T. Rösigen</b>
	<i>This course will be offered for the last time in Autumn Semester 2021.</i>							

<b>151-0605-00L</b>	<b>Nanosystems</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
151-0605-00 G	Nanosystems <i>Lecture: Thursday 10-13. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Exercises: will take place in the laboratories.</i>			4 hrs	Thu	10-13	ML F40	<b>A. Stemmer</b>	
<b>252-0543-01L</b>	<b>Computer Graphics</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
252-0543-01 V	Computer Graphics <i>Does not take place this semester.</i>			3 hrs					
252-0543-01 U	Computer Graphics <i>Does not take place this semester.</i>			2 hrs					
252-0543-01 A	Computer Graphics <i>Does not take place this semester.</i>			2 hrs					
<b>402-0674-00L</b>	<b>Physics in Medical Research: From Atoms to Cells</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	<b>B. K. R. Müller</b>	
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	<b>B. K. R. Müller</b>	
<b>465-0953-00L</b>	<b>Biostatistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
465-0953-00 V	Biostatistics <i>Does not take place this semester.</i>			2 hrs					
465-0953-00 U	Biostatistics <i>Does not take place this semester.</i>			1 hrs					
<b>227-0976-00L</b>	<b>Computational Psychiatry &amp; Computational Psychosomatics</b> <i>Number of participants limited to 24.</i>	<b>W</b>	<b>2 credits</b>	<b>4S</b>					
	<i>Information for UZH students: Enrolment to this course unit only possible at ETH Zurich. No enrolment to module BMT20002.</i>								
	<i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>								
227-0976-00 S	Computational Psychiatry & Computational Psychosomatics <i>Permission from lecturers required for all students **together with University of Zurich**</i>			60s hrs				<b>K. Stephan</b>	
	<i>Room: SOF-E-7 (UZH): SOF-E-7 Schönberggasse 1 8001 Zurich <a href="https://www.plaene.uzh.ch/SOF/room/SOF-E-07">https://www.plaene.uzh.ch/SOF/room/SOF-E-07</a></i>								
	<i>The dates will be announced on <a href="https://www.tnu.ethz.ch/en/teaching">https://www.tnu.ethz.ch/en/teaching</a></i>								

## ►►► Biology Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0399-10L</b>	<b>Physiology and Anatomy for Biomedical Engineers I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
227-0399-10 G	Physiology and Anatomy for Biomedical Engineers I			2 hrs	Tue	08-10	ETZ E8	<b>M. Wyss</b>
<b>227-0945-00L</b>	<b>Cell and Molecular Biology for Engineers I</b> <i>This course is part I of a two-semester course.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
227-0945-00 G	Cell and Molecular Biology for Engineers I			2 hrs	Thu	10-12	LFW C5	<b>C. Frei</b>
<b>227-0949-00L</b>	<b>Biological Methods for Engineers (Basic Lab)</b> <i>Number of participants limited to 10.</i>	<b>W</b>	<b>3 credits</b>	<b>5P</b>				
227-0949-00 P	Biological Methods for Engineers (Basic Lab) ■ <i>Permission from lecturers required for all students Laboratory: Thu 16:00 - 18:00 ETZ C81.1</i>			70s hrs	Thu/2	13-16 16-18	ETZ H91 ETZ C81.1	<b>C. Frei</b>

## ►► Biomechanics

## ►►► Track Core Courses

*During the Master programme, a minimum of 12 CP must be obtained from track core courses.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>			5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7	<b>S. Kozerke, K. P. Prüssmann</b>
<b>227-0386-00L</b>	<b>Biomedical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1	<b>J. Vörös, S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong</b>
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>				

227-0447-00 V	Image Analysis and Computer Vision		3 hrs	Thu	14-17	HG F1	<b>L. Van Gool</b> , E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision		1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool</b> , E. Konukoglu, F. Yu
<b>227-0965-00L</b>	<b>Micro and Nano-Tomography of Biological Tissues</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues		3 hrs	Mon	09-12	ETZ E9	<b>M. Stampanoni</b> , F. Marone Welford
<b>376-0121-00L</b>	<b>Multiscale Bone Biomechanics</b> <i>Number of participants limited to 30</i>	<b>W</b>	<b>6 credits</b>	<b>4S</b>			
376-0121-00 S	Multiscale Bone Biomechanics ■		4 hrs	Fri	12-16	HCP E47.2	<b>R. Müller</b> , X.-H. Qin
<b>376-1651-00L</b>	<b>Clinical and Movement Biomechanics</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
376-1651-00 G	Clinical and Movement Biomechanics		3 hrs	Wed	14-17	HIL E9	<b>N. Singh</b> , R. List, P. Schütz
<b>376-1985-00L</b>	<b>Trauma Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>			
376-1985-00 V	Trauma Biomechanics		2 hrs	Thu	10-12	HG D7.1	<b>K.-U. Schmitt</b> , M. H. Muser
376-1985-00 U	Trauma Biomechanics		1 hrs	Thu/2w	14-16	HG E33.3	<b>K.-U. Schmitt</b> , M. H. Muser

### ▶▶▶ Recommended Elective Courses

*These courses are particularly recommended for the Biomechanics track. Please consult your track advisor if you wish to select other subjects.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0524-00L</b>	<b>Continuum Mechanics I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0524-00 V	Continuum Mechanics I			2 hrs	Fri	08-10	HG D5.2	<b>E. Mazza</b> , A. E. Ehret
151-0524-00 U	Continuum Mechanics I <i>Exercises start in the second week of the semester.</i>			1 hrs	Wed	12-13	HG E1.1	<b>E. Mazza</b> , A. E. Ehret
<b>151-0601-00L</b>	<b>Theory of Robotics and Mechatronics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	08-10 10-11	HG D1.2 ML E12	<b>P. Korba</b> , <b>S. Stoeter</b>
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60	<b>B. Nelson</b> , N. Shamsudhin
<b>151-0605-00L</b>	<b>Nanosystems</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>				
151-0605-00 G	Nanosystems <i>Lecture: Thursday 10-13. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Exercises: will take place in the laboratories.</i>			4 hrs	Thu	10-13	ML F40	<b>A. Stemmer</b>
<b>151-0905-00L</b>	<b>Medical Technology Innovation - From Concept to Clinics</b>	<b>W</b>	<b>4 credits</b>	<b>3P</b>				
151-0905-00 P	Medical Technology Innovation - From Concept to Clinics			3 hrs	Tue	08-11	LFW C4	<b>I. Herrmann</b>
<b>376-1103-00L</b>	<b>Frontiers in Nanotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>4V</b>				
376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri	10-12 14-16	HCP E47.3 HCP E47.3	<b>V. Vogel</b> , further lecturers
<b>376-1219-00L</b>	<b>Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-1219-00 V	Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions			2 hrs	Tue	08-10	CAB G11	<b>R. Riener</b> , O. Lamercy
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Uebungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3	<b>K. Maniura</b> , M. Rottmar, M. Zenobi-Wong
<b>376-1351-00L</b>	<b>Micro/Nanotechnology and Microfluidics for Biomedical Applications</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
376-1351-00 V	Micro/Nanotechnology and Microfluidics for Biomedical Applications			2 hrs	Wed	16-18	ML H41.1	<b>E. Delamarche</b>
<b>376-1720-00L</b>	<b>Application of MATLAB in the Human Movement Sciences</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
376-1720-00 G	Application of MATLAB in the Human Movement Sciences <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Further information is available on Moodle.</i>			2 hrs	Tue	10-12	HG D5.2	<b>R. van de Langenberg</b>
<b>376-1974-00L</b>	<b>Colloquium in Biomechanics</b>	<b>W</b>	<b>2 credits</b>	<b>2K</b>				
376-1974-00 K	Colloquium in Biomechanics <i>ONLINE: This course will take place online. Reserved rooms will remain available for students to follow the seminar from there.</i>			2 hrs	Wed	08-10	HG D3.2	<b>B. Helgason</b> , S. J. Ferguson, R. Müller, J. G. Snedeker, B. Taylor, M. Zenobi-Wong
<b>376-2017-00L</b>	<b>Biomechanics of Sports Injuries and Rehabilitation</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-2017-00 V	Biomechanik von Sportverletzungen und Rehabilitation			2 hrs	Mon	16-18	HG D5.2	<b>K.-U. Schmitt</b> , J. Goldhahn
<b>402-0674-00L</b>	<b>Physics in Medical Research: From</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				

Atoms to Cells								
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	B. K. R. Müller
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	B. K. R. Müller
465-0953-00L	Biostatistics	W	4 credits	2V+1U				
465-0953-00 V	Biostatistics			2 hrs				
Does not take place this semester.								
465-0953-00 U	Biostatistics			1 hrs				
Does not take place this semester.								

### ►►► Biology Courses

Number	Title	Type	ECTS	Hours				Lecturers
227-0399-10L	Physiology and Anatomy for Biomedical Engineers I	W	3 credits	2G				
227-0399-10 G	Physiology and Anatomy for Biomedical Engineers I			2 hrs	Tue	08-10	ETZ E8	M. Wyss
227-0945-00L	Cell and Molecular Biology for Engineers I <i>This course is part I of a two-semester course.</i>	W	3 credits	2G				
227-0945-00 G	Cell and Molecular Biology for Engineers I			2 hrs	Thu	10-12	LFW C5	C. Frei
227-0949-00L	Biological Methods for Engineers (Basic Lab) <i>Number of participants limited to 10.</i>	W	3 credits	5P				
227-0949-00 P	Biological Methods for Engineers (Basic Lab) ■ <i>Permission from lecturers required for all students Laboratory: Thu 16:00 - 18:00 ETZ C81.1</i>			70s hrs	Thu/2	13-16 16-18	ETZ H91 ETZ C81.1	C. Frei

### ►► Medical Physics

### ►►► Track Core Courses

*During the Master programme, a minimum of 12 CP must be obtained from track core courses.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0311-00L</b>	<b>Qubits, Electrons, Photons</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>				
227-0311-00 V	Qubits, Electrons, Photons			3 hrs	Thu	08-10	CHN F42	<b>T. Zambelli</b>
					Fri	13-14	ETZ E9	
227-0311-00 U	Qubits, Electrons, Photons			2 hrs	Wed	10-12	HG D3.2	<b>T. Zambelli</b>
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
227-0385-10 G	Biomedical Imaging			5 hrs	Mon	14-16	HG E19	<b>S. Kozerke, K. P. Prüssmann</b>
<i>**together with University of Zurich**</i>					Tue	13-16	HG E7	
<b>227-0943-00L</b>	<b>Radiobiology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
227-0943-00 V	Radiobiology			2 hrs	Thu	14-16	HCI D8	<b>M. Pruschy</b>
<i>The lecture does not take place on October 14.</i>								
<b>402-0341-00L</b>	<b>Medical Physics I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0341-00 V	Medical Physics I			2 hrs	Thu	16-18	HPT C103	<b>P. Manser</b>
402-0341-00 U	Medical Physics I			1 hrs	Thu	18-19	HPT C103	<b>P. Manser</b>

### ►►► Recommended Elective Courses

*These courses are particularly recommended for the Medical Physics track. Please consult your track advisor if you wish to select other subjects.*

Number	Title	Type	ECTS	Hours				Lecturers
402-0674-00L	Physics in Medical Research: From Atoms to Cells	W	6 credits	2V+1U				
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	B. K. R. Müller
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	B. K. R. Müller
227-0941-00L	Physics and Mathematics of Radiotherapy Planning (University of Zurich) <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: PHY471 <a href="https://www.uzh.ch/cmsssl/en/studies/application/chmobilityin.html">https://www.uzh.ch/cmsssl/en/studies/application/chmobilityin.html</a>  Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	6 credits	3G				
227-0941-00 G	Physics and Mathematics of Radiotherapy Planning (University of Zurich) <i>**Course at University of Zurich**</i>			3 hrs	Wed	10-13	UNI ZH.	University lecturers

### ►►► Other Elective Courses

*These courses may be suitable for the Medical Physics track. Please consult your track advisor.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>				
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1	<b>L. Van Gool, E. Konukoglu, F. Yu</b>

227-0447-00 U	Image Analysis and Computer Vision		1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool</b> , E. Konukoglu, F. Yu
<b>227-0965-00L</b>	<b>Micro and Nano-Tomography of Biological Tissues</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues		3 hrs	Mon	09-12	ETZ E9	<b>M. Stampanoni</b> , F. Marone Welford

### ►►► Biology Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0399-10L</b>	<b>Physiology and Anatomy for Biomedical Engineers I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
227-0399-10 G	Physiology and Anatomy for Biomedical Engineers I			2 hrs	Tue	08-10	ETZ E8	<b>M. Wyss</b>
<b>227-0945-00L</b>	<b>Cell and Molecular Biology for Engineers I</b> <i>This course is part I of a two-semester course.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
227-0945-00 G	Cell and Molecular Biology for Engineers I			2 hrs	Thu	10-12	LFW C5	<b>C. Frei</b>

### ►► Molecular Bioengineering

#### ►►► Track Core Courses

*During the Master programme, a minimum of 12 CP must be obtained from track core courses.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>376-1103-00L</b>	<b>Frontiers in Nanotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>4V</b>				
376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri	10-12 14-16	HCP E47.3 HCP E47.3	<b>V. Vogel</b> , further lecturers
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3	<b>K. Maniura</b> , M. Rottmar, M. Zenobi-Wong
<b>402-0674-00L</b>	<b>Physics in Medical Research: From Atoms to Cells</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	<b>B. K. R. Müller</b>
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	<b>B. K. R. Müller</b>
<b>465-0953-00L</b>	<b>Biostatistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
465-0953-00 V	Biostatistics <i>Does not take place this semester.</i>			2 hrs				
465-0953-00 U	Biostatistics <i>Does not take place this semester.</i>			1 hrs				
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2). Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2	<b>M. Fussenegger</b>

### ►►► Recommended Elective Courses

*These courses are particularly recommended for the Molecular Bioengineering track. Please consult your track advisor if you wish to select other subjects.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60	<b>B. Nelson</b> , N. Shamsudhin
<b>151-0905-00L</b>	<b>Medical Technology Innovation - From Concept to Clinics</b>	<b>W</b>	<b>4 credits</b>	<b>3P</b>				
151-0905-00 P	Medical Technology Innovation - From Concept to Clinics			3 hrs	Tue	08-11	LFW C4	<b>I. Herrmann</b>
<b>227-0311-00L</b>	<b>Qubits, Electrons, Photons</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>				
227-0311-00 V	Qubits, Electrons, Photons			3 hrs	Thu Fri	08-10 13-14	CHN F42 ETZ E9	<b>T. Zambelli</b>
227-0311-00 U	Qubits, Electrons, Photons			2 hrs	Wed	10-12	HG D3.2	<b>T. Zambelli</b>
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>			5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7	<b>S. Kozzerke</b> , K. P. Prüssmann
<b>227-0386-00L</b>	<b>Biomedical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1	<b>J. Vörös</b> , S. J. Ferguson, S. Kozzerke, M. P. Wolf, M. Zenobi-Wong
<b>227-0393-10L</b>	<b>Bioelectronics and Biosensors</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0393-10 V	Bioelectronics and Biosensors			2 hrs	Fri	09-11	HG E1.2	<b>J. Vörös</b> , M. F. Yanik
227-0393-10 U	Bioelectronics and Biosensors			2 hrs	Fri	08-09 11-12	HG E1.2 HG E1.2	<b>M. F. Yanik</b> , J. Vörös
<b>227-0965-00L</b>	<b>Micro and Nano-Tomography of Biological Tissues</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				



227-0965-00 G	Micro and Nano-Tomography of Biological Tissues		3 hrs	Mon	09-12	ETZ E9	<b>M. Stampanoni,</b> F. Marone Welford
<b>227-0981-00L</b>	<b>Cross-Disciplinary Research and Development in Medicine and Engineering</b> <i>A maximum of 12 medical degree students and 12 (biomedical) engineering degree students can be admitted, their number should be equal.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+2A</b>			
227-0981-00 V	Cross-Disciplinary Research and Development in Medicine and Engineering ■ <i>Permission from lecturers required for all students</i> <i>**together with University of Zurich**</i>  <i>In order to synchronize the schedule between ETH and UZH students, the course will start on Tuesday 28.09.</i> <i>The final lecture will be on 07.12.</i>  <i>IMPORTANT: Note that a special permission from the lecturers is required to register for this course. Contact the head lecturer to that end.</i>		2 hrs	Tue	10-12	HG E41	<b>V. Kurtcuoglu,</b> D. de Julien de Zelicourt, M. Meboldt, M. Schmid Daners, O. Ullrich
227-0981-00 A	Cross-Disciplinary Research and Development in Medicine and Engineering ■ <i>Permission from lecturers required for all students</i> <i>**together with University of Zurich**</i>  <i>2 hours of group work to be scheduled independently by the joint teams of medical and engineering students.</i>		2 hrs				<b>V. Kurtcuoglu,</b> D. de Julien de Zelicourt, M. Meboldt, M. Schmid Daners, O. Ullrich
<b>327-0505-00L</b>	<b>Surfaces, Interfaces and their Applications I</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>			
327-0505-00 V	Surfaces, Interfaces and their Applications I		2 hrs	Mon	09-11	HCI J7	<b>N. Spencer,</b> M. P. Heuberger, L. Isa
327-0505-00 U	Surfaces, Interfaces and their Applications I		1 hrs	Mon	11-12	HCI J7	<b>N. Spencer,</b> M. P. Heuberger, L. Isa
<b>327-1101-00L</b>	<b>Biomineralization</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
327-1101-00 V	Biomineralization		2 hrs	Tue	10-12	ML H34.3	<b>K.-H. Ernst</b>
<b>376-1622-00L</b>	<b>Practical Methods in Tissue Engineering</b> <i>Number of participants limited to 12.</i>	<b>W</b>	<b>5 credits</b>	<b>4P</b>			
376-1622-00 P	Practical Methods in Tissue Engineering ■		4 hrs	Mon	13-17	HPL D21.2	<b>M. Zenobi-Wong,</b> S. J. Ferguson, S. Grad, S. Schürle-Finke
<b>402-0341-00L</b>	<b>Medical Physics I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0341-00 V	Medical Physics I		2 hrs	Thu	16-18	HPT C103	<b>P. Manser</b>
402-0341-00 U	Medical Physics I		1 hrs	Thu	18-19	HPT C103	<b>P. Manser</b>
<b>529-0240-00L</b>	<b>Chemical Biology - Peptides</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>			
529-0240-00 G	Chemical Biology - Peptides <i>Lecture: 2 hours, 8:45 - 10:30 on Thursday</i> <i>Exercise: 1 hour, 7:45 - 8:30 or 10:45 - 11:30 (immediately after the lecture) on Thursday. Exercises start in the second week.</i>		3 hrs	Thu	08-09 09-11 11-12 23.09.	HCI J4 HCI J4 HCI J4 HIL E8	<b>H. Wennemers</b>
<b>529-0615-01L</b>	<b>Biochemical and Polymer Reaction Engineering</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>			
529-0615-01 G	Biochemical and Polymer Reaction Engineering		3 hrs	Tue Wed	14-16 12-13	HCI J4 HCI J6	<b>P. Arosio</b>
<b>535-0423-00L</b>	<b>Drug Delivery and Drug Targeting</b>	<b>W</b>	<b>2 credits</b>	<b>1.5V</b>			
535-0423-00 V	Drug Delivery and Drug Targeting		1.5 hrs	Tue/1	13-16	HIL E9	<b>J.-C. Leroux,</b> A. Steinauer
<b>636-0507-00L</b>	<b>Synthetic Biology II</b> <i>Students in the MSc Biotechnology (Programme Regulations 2017) may select Synthetic Biology II instead of the Research Project 1.</i>	<b>W</b>	<b>8 credits</b>	<b>4A</b>			
636-0507-00 A	Synthetic Biology II <i>Does not take place this semester.</i> <i>Permission from lecturers required for all students</i> <i>This course will (hopefully!) be offered again in Autumn Semester 2022!</i>		4 hrs	by appt.			<b>S. Panke,</b> Y. Benenson, J. Stelling

### ▶▶▶ Other Elective Courses

*These courses may be suitable for the Molecular Bioengineering track. Please consult your track advisor.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7	<b>W.-D. Hardt,</b> L. Eberl, J. Piel, M. Pilhofer

### ▶▶▶ Biology Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0399-10L</b>	<b>Physiology and Anatomy for Biomedical Engineers I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				

227-0399-10 G	Physiology and Anatomy for Biomedical Engineers I		2 hrs	Tue	08-10	ETZ E8	<b>M. Wyss</b>
<b>227-0945-00L</b>	<b>Cell and Molecular Biology for Engineers I</b> <i>This course is part I of a two-semester course.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>			
227-0945-00 G	Cell and Molecular Biology for Engineers I		2 hrs	Thu	10-12	LFW C5	<b>C. Frei</b>
<b>227-0949-00L</b>	<b>Biological Methods for Engineers (Basic Lab)</b> <i>Number of participants limited to 10.</i>	<b>W</b>	<b>3 credits</b>	<b>5P</b>			
227-0949-00 P	Biological Methods for Engineers (Basic Lab) ■ <i>Permission from lecturers required for all students Laboratory: Thu 16:00 - 18:00 ETZ C81.1</i>		70s hrs	Thu/2	13-16 16-18	ETZ H91 ETZ C81.1	<b>C. Frei</b>

## ► Projects and Laboratory Courses

### ►► Semester Project

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-1101-00L</b>	<b>How to Write Scientific Texts</b> <i>Strongly recommended prerequisite for Semester Projects and Master Theses at D-ITET (MSc BME, MSc EEIT, MSc EST).</i>	<b>E-</b>	<b>0 credits</b>					
227-1101-00 S	How to Write Scientific Texts <i>Room to be announced</i>			4s hrs	04.11. 11.11.	16-18 16-18	n/a n/a	<b>U. Koch</b>
<b>227-1772-10L</b>	<b>Semester Project</b> <i>Registration in mystudies required!</i>	<b>O</b>	<b>12 credits</b>	<b>20A</b>				
227-1772-10 A	Semester Project			20 hrs	by appt.			Professors

### ►► Additional Projects and Laboratory Courses (ONLY for Progr. Reg. 2020)

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-1772-20L</b>	<b>Semester Project 2</b> <i>Only for Programme Regulations 2020.</i>	<b>W</b>	<b>12 credits</b>	<b>20A</b>				
	<i>Registration in mystudies required!</i>							
227-1772-20 A	Semester Project 2			20 hrs	by appt.			Professors
<b>227-1750-00L</b>	<b>Internship in Industry</b> <i>Only for Biomedical Engineering MSc (Programme Regulations 2020).</i>	<b>W</b>	<b>12 credits</b>					
227-1750-00 P	Internship in Industry ■							external organisers
<b>227-1760-00L</b>	<b>Research Project (long)</b> <i>Only for Biomedical Engineering MSc (Programme Regulations 2020).</i>	<b>W</b>	<b>24 credits</b>	<b>40A</b>				
227-1760-00 A	Research Project (long)			40 hrs				Professors

### ► Master's Thesis

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-1101-00L</b>	<b>How to Write Scientific Texts</b> <i>Strongly recommended prerequisite for Semester Projects and Master Theses at D-ITET (MSc BME, MSc EEIT, MSc EST).</i>	<b>E-</b>	<b>0 credits</b>					
227-1101-00 S	How to Write Scientific Texts <i>Room to be announced</i>			4s hrs	04.11. 11.11.	16-18 16-18	n/a n/a	<b>U. Koch</b>
<b>227-1700-00L</b>	<b>Master's Thesis</b> <i>Admission only if all the following apply: a. bachelor program successful completed; b. any additional requirements necessary to gain admission to the master program BME have been successfully completed; c. both the semester project and (if applicable) the internship successfully completed.</i>	<b>O</b>	<b>30 credits</b>	<b>40D</b>				
	<i>Registration in myStudies required!</i>							
227-1700-00 D	Master's Thesis ■			40 hrs	by appt.			Professors

### ► GESS Science in Perspective

<i>see GESS Science in Perspective: Language Courses ETH/UZH</i>								
<i>see GESS Science in Perspective: Type A: Enhancement of Reflection Capability</i>								
<i>Recommended GESS Science in Perspective (Type B) for D-ITET.</i>								

### ► Generally Accessible Seminars and Colloquia

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0970-00L</b>	<b>Research Topics in Biomedical Engineering</b>	<b>Z</b>	<b>0 credits</b>	<b>1K</b>				

227-0970-00 K	Research Topics in Biomedical Engineering	1 hrs	Tue	18-19	ETZ E6	<b>K. P. Prüssmann</b> , S. Kozerke, M. Stampanoni, K. Stephan, J. Vörös
<b>227-0980-00L</b>	<b>Seminar on Biomedical Magnetic Resonance</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>		
227-0980-00 S	Seminar on Biomedical Magnetic Resonance	1 hrs	Thu	12-13	ETZ E6	<b>K. P. Prüssmann</b> , S. Kozerke, M. Weiger Senften

#### Biomedical Engineering Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Biotechnology Master

## ► Master Studies (Programme Regulations 2021)

### ►► Core Courses

Students need to acquire a total of 6 ECTS in lectures in this category.  
The list of core courses is a closed list, no other course can be added to this category.  
Students need to pass both lectures offered in this category.

Number	Title	Type	ECTS	Hours	Lecturers
636-0102-10L	<b>Advanced Bioengineering</b> Only for Biotechnologie Master, Programme Regulations 2021 or doctoral students of D-BSSE	O	2 credits	3S	
636-0102-10 S	Advanced Bioengineering The lecture will take place Friday 11-13, Tutorials Friday 17-18 Attention: Lecture starts on Friday, Oct. 1 This lecture will take place online.			3 hrs Fri 11-13 17-18 BSA E46 BSA E46	<b>S. Panke</b> , Y. Benenson, P. S. Dittrich, M. Fussenegger, A. Hierlemann, M. H. Khammash, A. Moor, D. J. Müller, M. Nash, R. Platt, J. Stelling, B. Treutlein

### ►► Research Project and Industry Internship

Students can choose between Research Project OR Industry Internship. Duration: 12 weeks full-time min.  
Must be carried out in a different research group/company than the master's thesis.

Number	Title	Type	ECTS	Hours	Lecturers
636-0805-00L	<b>Research Project</b> Only for Biotechnologie Master, Programme Regulations 2021.	W	16 credits	34A	
636-0805-00 A	Research Project			480s hrs	Professors
636-0806-00L	<b>Industry Internship</b> Only for Biotechnologie Master, Programme Regulations 2021.	W	16 credits	34A	
636-0806-00 A	Industry Internship			480s hrs	Professors

### ►► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
636-0900-10L	<b>Master's Thesis</b> Only for Biotechnologie Master, Programme Regulations 2021.  Students can only start with their master's thesis if a. The BSc programme has been completed successfully b. Assigned additional requirements for the admission to the master's degree programme have been passed c. At least 64 ECTS have been acquired for the master's degree programme, including 22 ECTS in the core course category and the 16 ECTS in the research projects and internships category	O	44 credits	91D	
636-0900-10 D	Master's Thesis			1280s hrs	Professors

## ► Master Studies (Programme Regulations 2017)

### ►► Core Courses

Students need to acquire a total of 8 ECTS in lectures in this category.  
The list of core courses is a closed list, no other course can be added to this category.  
Students need to pass both lectures offered in this category.

Number	Title	Type	ECTS	Hours	Lecturers
636-0102-00L	<b>Advanced Bioengineering</b> Only for Biotechnologie Master, Programme Regulations 2017.	O	4 credits	3S	
636-0102-10 S	Advanced Bioengineering The lecture will take place Friday 11-13, Tutorials Friday 17-18 Attention: Lecture starts on Friday, Oct. 1 This lecture will take place online.			3 hrs Fri 11-13 17-18 BSA E46 BSA E46	<b>S. Panke</b> , Y. Benenson, P. S. Dittrich, M. Fussenegger, A. Hierlemann, M. H. Khammash, A. Moor, D. J. Müller, M. Nash, R. Platt, J. Stelling, B. Treutlein

### ►► Research Projects and Internship

Students need to acquire a total of 20 ECTS in this category.  
Either choose Research Project I (8 ECTS) and Research Project II (12 ECTS)  
Or choose Research Project I (8 ECTS) and Industry Internship (12 ECTS)  
Instead of Research Project I (8 ECTS) students may also choose Synthetic Biology II (8 ECTS)

### ►►► Research Projects

Number	Title	Type	ECTS	Hours	Lecturers
636-0802-00L	<b>Research Project I</b> Only for Biotechnologie Master BSc, Programme Regulations 2017.	O	8 credits	23A	

636-0802-00 A	Research Project I ■			320s hrs		Professors
<b>636-0803-00L</b>	<b>Research Project II</b> <i>Only for Biotechnologie Master BSc, Programme Regulations 2017.</i>	<b>W</b>	<b>12 credits</b>	<b>34A</b>		
	<i>Enrollment only for students that don't do an industry internship but two research projects.</i>					
636-0803-00 A	Research Project II ■			480s hrs		Professors
<b>636-0507-00L</b>	<b>Synthetic Biology II</b> <i>Students in the MSc Biotechnology (Programme Regulations 2017) may select Synthetic Biology II instead of the Research Project 1.</i>	<b>W</b>	<b>8 credits</b>	<b>4A</b>		
636-0507-00 A	Synthetic Biology II <i>Does not take place this semester. Permission from lecturers required for all students This course will (hopefully!) be offered again in Autumn Semester 2022!</i>			4 hrs	by appt.	<b>S. Panke</b> , Y. Benenson, J. Stelling

### ►►► Internship

Number	Title	Type	ECTS	Hours	Lecturers
<b>636-0804-00L</b>	<b>Industry Internship</b> <i>Only for Biotechnologie Master BSc, Programme Regulations 2017.</i>	<b>W</b>	<b>12 credits</b>	<b>34A</b>	
636-0804-00 A	Industry Internship ■			480s hrs	Professors

### ►► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>636-0900-00L</b>	<b>Master's Thesis</b>	<b>O</b>	<b>40 credits</b>	<b>91D</b>	
636-0900-00 D	Master's Thesis ■			1280s hrs by appt.	Professors

### ► Practical Training

*All listed lab courses are mandatory.  
For Students in Biotechnology Master, Programme Regulation 2021: 16 ECTS in this category are mandatory.  
For Students in Biotechnology Master, Programme Regulation 2017: 14 ECTS in this category are mandatory.*

Number	Title	Type	ECTS	Hours	Lecturers
<b>636-0201-00L</b>	<b>Lab Course: Methods in Cell Analysis and Laboratory Automation</b> <i>The lab course is open for MSc Biotechnology students only.</i>	<b>O</b>	<b>3 credits</b>	<b>6P</b>	
636-0201-00 P	Lab Course: Methods in Cell Analysis and Laboratory Automation ■ <i>The introduction to this lab course takes place on Friday, September 24. Then, the course continuous Monday/Tuesday 9- 17h for 5 weeks (until Tuesday, October 26).</i>			80s hrs	<b>T. Horn</b>
<b>636-0203-00L</b>	<b>Lab Course: Microsystems and Microfluidics in Biology</b> <i>The lab course is open for MSc Biotechnology students only.</i>	<b>O</b>	<b>3 credits</b>	<b>5P</b>	
636-0203-00 P	Lab Course: Microsystems and Microfluidics in Biology ■ <i>The Lab Course will take place Monday/Tuesday 9-17h, 8 days in total. The Lab Course starts on Monday, November 29 (until Tuesday, December 21)</i>			64s hrs	<b>P. S. Dittrich, A. Hierlemann</b>
<b>636-0204-00L</b>	<b>Lab Course: Microbial Biotechnology</b> <i>The lab course is open for MSc Biotechnology students only.</i>	<b>O</b>	<b>2 credits</b>	<b>5P</b>	
636-0204-00 P	Lab Course: Microbial Biotechnology ■ <i>The Lab Course will take place Monday/Tuesday 9-17h, 8 days in total. Lab Course starts on Monday, November 1 (until Tuesday, November 23)</i>			64s hrs	<b>M. Held</b>

### ► Advanced Courses

*Students need to acquire a total of 24 ECTS in this category.  
The list of advanced courses is a closed list, no other course can be added to this category.*

### ►► Biomelecular-Orientated

Number	Title	Type	ECTS	Hours	Lecturers
<b>636-0103-00L</b>	<b>Microtechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>	
636-0103-00 G	Microtechnology <i>Attention: Lecture starts on Thursday, September 30 This lecture will take place in classroom in Basel.</i>			3 hrs Thu 13-16 BSA E46	<b>A. Hierlemann</b>
<b>636-0104-00L</b>	<b>Biophysical Methods</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>	
636-0104-00 G	Biophysical Methods <i>Attention: Lecture starts on Wednesday, September 29 This lecture will take place in classroom in Basel.</i>			3 hrs Wed 10-13 BSA E46	<b>D. J. Müller</b>

<b>636-0105-00L</b>	<b>Introduction to Biological Computers</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0105-00 G	Introduction to Biological Computers <i>Attention: Lecture starts on Friday, Oct. 1</i> <i>This lecture will take place in classroom in BASEL. An option to participate via Zoom will be offered.</i>			3 hrs	Fri	14-17	BSA E46 HIT F22	<b>Y. Benenson</b>	
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2).</i> <i>Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2	<b>M. Fussenegger</b>	
<b>636-0107-00L</b>	<b>Microbial Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0107-00 G	Microbial Biotechnology <i>Attention: Lecture starts Friday, Oct. 1</i> <i>This lecture will take place in classroom in Basel.</i>			3 hrs	Fri	08-11	BSA E46	<b>S. Panke, M. Jeschek</b>	
<b>636-0018-00L</b>	<b>Data Mining I</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>					
636-0018-00 G	Data Mining I <i>Tutorial: 8-9h, Lecture: 9-11h.</i> <i>ATTENTION: Course starts on Wednesday, Sept. 29</i>  <i>The course will be held via Zoom (not in classroom) and lectures and tutorials will be recorded.</i> <i>Online event: This event will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Wed	08-11	BSD G205 HG D16.2	<b>K. M. Borgwardt</b>	
636-0018-00 A	Data Mining I <i>Project Work (compulsory continuous performance assessment), no fixed presence required.</i>			2 hrs				<b>K. M. Borgwardt</b>	
<b>636-0550-00L</b>	<b>Biomolecular Nanotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
636-0550-00 V	Biomolecular Nanotechnology <i>Wednesdays 08.00-10.00 Campus Rosental 1095, Conference room E00.012</i> <i>ATTENTION: This lecture will start on Wednesday, Sept. 29</i>			2 hrs				<b>M. Nash</b>	
636-0550-00 U	Biomolecular Nanotechnology <i>Thursday, 08.00-09.00 Campus Rosental 1060, Seminar room 2.14</i> <i>ATTENTION: The first tutorial will take place on Thursday, Sept. 30</i>			1 hrs				<b>M. Nash</b>	
<b>636-0117-00L</b>	<b>Mathematical Modelling for Bioengineering and Systems Biology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0117-00 G	Mathematical Modelling for Bioengineering and Systems Biology <i>The lecture course will be offered as "inverted classroom".</i> <i>Lecture videos, slides, and scripts will be made available via Moodle, and students are expected to watch the videos ahead of the lecture. The 45-minute in person lecture time serves to answer student question where necessary, and to discuss application examples with students to deepen their understanding of the material. Similarly, problem sheets and solutions will be made available ahead of the tutorial. The tutorials serve to address further questions. As students from both Basel and Zurich participate in the course, lectures and tutorials will be offered in alternating weeks in Basel and Zurich. Remote participation is always possible. It is a new form of teaching. Feedback will be most welcome.</i> <i>Thursday 8-9 Tutorial (BS)</i> <i>Thursday 9-10 Q&amp;A Lecture (BS)</i> <i>Friday 9-10 Tutorial (ZH)</i> <i>Friday 10-11 Q&amp;A Lecture (ZH)</i> <i>Course starts: Thursday, Sept. 30 2021 in BS</i>			3 hrs	Thu Fri	08-09 09-10 09-10 10-11	BSD G205 BSD G205 HG D16.2 HG D16.2	<b>D. Iber</b>	
<b>636-0118-00L</b>	<b>Introduction to Dynamical Systems with Applications to Biology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0118-00 G	Introduction to Dynamical Systems with Applications to Biology <i>LectureThursdays 11-13h Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked for students to follow the course from there.</i> <i>Tutorial Friday 13-14h Online: The tutorial will primarily take place online. Reserved rooms will remain blocked for students to follow the course from there.</i>  <i>Attention: Lecture starts on Thursday, Sept. 30</i>			3 hrs	Thu Fri	11-13 13-14	BSD G205 BSA E46	<b>M. H. Khammash, A. Gupta</b>	
<b>636-0109-00L</b>	<b>Stem Cells: Biology and Therapeutic Manipulation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0109-00 G	Stem Cells: Biology and Therapeutic Manipulation <i>Does not take place this semester.</i> <i>This lecture will not be held in Autumn Semester 2021. It will be offered again in Autumn Semester 2022.</i>			3 hrs				<b>T. Schroeder</b>	
<b>636-0123-00L</b>	<b>Problem-Based Approach to Spatial Biology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					

636-0123-00 G Problem-Based Approach to Spatial Biology 3 hrs Wed 16-19 BSA E46 A. Moor  
*ATTENTION: Lecture starts on Wednesday, Sept. 29.  
 This lecture will take place in classroom in Basel.*

## ►► System-Orientated

Number	Title	Type	ECTS	Hours					Lecturers
<b>636-0103-00L</b>	<b>Microtechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0103-00 G	Microtechnology <i>Attention: Lecture starts on Thursday, September 30 This lecture will take place in classroom in Basel.</i>			3 hrs	Thu	13-16	BSA E46		<b>A. Hierlemann</b>
<b>636-0104-00L</b>	<b>Biophysical Methods</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0104-00 G	Biophysical Methods <i>Attention: Lecture starts on Wednesday, September 29 This lecture will take place in classroom in Basel.</i>			3 hrs	Wed	10-13	BSA E46		<b>D. J. Müller</b>
<b>636-0105-00L</b>	<b>Introduction to Biological Computers</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0105-00 G	Introduction to Biological Computers <i>Attention: Lecture starts on Friday, Oct. 1 This lecture will take place in classroom in BASEL. An option to participate via Zoom will be offered.</i>			3 hrs	Fri	14-17	BSA E46 HIT F22		<b>Y. Benenson</b>
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2). Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2		<b>M. Fussenegger</b>
<b>636-0018-00L</b>	<b>Data Mining I</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>					
636-0018-00 G	Data Mining I <i>Tutorial: 8-9h, Lecture: 9-11h. ATTENTION: Course starts on Wednesday, Sept. 29  The course will be held via Zoom (not in classroom) and lectures and tutorials will be recorded. Online event: This event will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Wed	08-11	BSD G205 HG D16.2		<b>K. M. Borgwardt</b>
636-0018-00 A	Data Mining I <i>Project Work (compulsory continuous performance assessment), no fixed presence required.</i>			2 hrs					<b>K. M. Borgwardt</b>
<b>636-0117-00L</b>	<b>Mathematical Modelling for Bioengineering and Systems Biology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0117-00 G	Mathematical Modelling for Bioengineering and Systems Biology <i>The lecture course will be offered as "inverted classroom". Lecture videos, slides, and scripts will be made available via Moodle, and students are expected to watch the videos ahead of the lecture. The 45-minute in person lecture time serves to answer student question where necessary, and to discuss application examples with students to deepen their understanding of the material. Similarly, problem sheets and solutions will be made available ahead of the tutorial. The tutorials serve to address further questions. As students from both Basel and Zurich participate in the course, lectures and tutorials will be offered in alternating weeks in Basel and Zurich. Remote participation is always possible. It is a new form of teaching. Feedback will be most welcome. Thursday 8-9 Tutorial (BS) Thursday 9-10 Q&amp;A Lecture (BS) Friday 9-10 Tutorial (ZH) Friday 10-11 Q&amp;A Lecture (ZH) Course starts: Thursday, Sept. 30 2021 in BS</i>			3 hrs	Thu Fri	08-09 09-10 09-10 10-11	BSD G205 BSD G205 HG D16.2 HG D16.2		<b>D. Iber</b>
<b>636-0118-00L</b>	<b>Introduction to Dynamical Systems with Applications to Biology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0118-00 G	Introduction to Dynamical Systems with Applications to Biology <i>Lecture Thursdays 11-13h Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked for students to follow the course from there. Tutorial Friday 13-14h Online: The tutorial will primarily take place online. Reserved rooms will remain blocked for students to follow the course from there.  Attention: Lecture starts on Thursday, Sept. 30</i>			3 hrs	Thu Fri	11-13 13-14	BSD G205 BSA E46		<b>M. H. Khammash, A. Gupta</b>
<b>636-0109-00L</b>	<b>Stem Cells: Biology and Therapeutic Manipulation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0109-00 G	Stem Cells: Biology and Therapeutic Manipulation <i>Does not take place this semester. This lecture will not be held in Autumn Semester 2021. It will be offered again in Autumn Semester 2022.</i>			3 hrs					<b>T. Schroeder</b>
<b>636-0123-00L</b>	<b>Problem-Based Approach to Spatial Biology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					

636-0123-00 G Problem-Based Approach to Spatial Biology 3 hrs Wed 16-19 BSA E46 A. Moor  
*ATTENTION: Lecture starts on Wednesday, Sept. 29.  
This lecture will take place in classroom in Basel.*

## ► Electives

The electives list in the ETH course catalogue is an open list, and the courses listed in the ETH course catalogue provide just examples for possible elective courses, e.g. a selection of eligible courses. Students are expected to look for relevant courses in the ETH and University of Basel course catalogue and ask their mentor for approval. Courses from the advanced course category may also be taken as electives. We particularly recommend browsing the University of Basel course catalogue for elective courses of relevant master's degree programmes (using the filter "programme structure" on the course catalogue website), such as for example: Biomedical Engineering, Chemistry, Drug Sciences, Epidemiology, Infection Biology, Molecular Biology, Nanosciences.

Number	Title	Type	ECTS	Hours					Lecturers
636-0015-00L	<b>An Introduction to Probability Theory and Stochastic Processes with Applications to Biology</b>	W	4 credits	3G					
636-0015-00 G	An Introduction to Probability Theory and Stochastic Processes with Applications to Biology <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked for students to follow the course from there.</i>			3 hrs	Mon	11-12 14-16	BSD G205 BSD G205		A. Gupta
636-0017-00L	<b>Computational Biology</b>	W	6 credits	3G+2A					
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>			3 hrs	Mon	16-18 18-19 12-13	BSA E46 HG D16.2 HG D16.2 BSA E46		T. Vaughan
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>			2 hrs					T. Vaughan
636-0501-00L	<b>Advanced Immunology I</b>	W	2 credits	2V					
636-0501-00 V	Advanced Immunology I (University of Basel) ■ <i>**Course at University of Basel** Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/en/home?id=256144">https://vorlesungsverzeichnis.unibas.ch/en/home?id=256144</a></i>			2 hrs					external organisers
636-0511-00L	<b>Developmental Neuroscience</b>	W	2 credits	2V					
636-0511-00 V	Developmental Neuroscience (University of Basel) <i>**Course at University of Basel** Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/de/recherche?id=259229">https://vorlesungsverzeichnis.unibas.ch/de/recherche?id=259229</a></i>			2 hrs					external organisers
636-0515-00L	<b>Molecular Medicine I</b>	W	2 credits	2V					
636-0515-00 V	Molecular Medicine I (University of Basel) <i>**Course at University of Basel** Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/de/recherche?id=259222">https://vorlesungsverzeichnis.unibas.ch/de/recherche?id=259222</a></i>			2 hrs					external organisers
636-0706-00L	<b>Spatio-Temporal Modelling in Biology</b>	W	4 credits	3G					
636-0706-00 G	Spatio-Temporal Modelling in Biology <i>The lecture course will be offered as "inverted classroom". Lecture videos, slides, and scripts will be made available via Moodle, and students are expected to watch the videos ahead of the lecture. The 45-minute in person lecture time serves to answer student question where necessary, and to discuss application examples with students to deepen their understanding of the material. Similarly, problem sheets and solutions will be made available ahead of the tutorial. The tutorials serve to address further questions. As students from both Basel and Zurich participate in the course, lectures and tutorials will be offered in alternating weeks in Basel and Zurich. Remote participation is always possible. It is a new form of teaching. Feedback will be most welcome. Thursday 10-11 Q&amp;A Lecture (BS) Thursday 11-12 Tutorial (BS) Friday 11-12 Q&amp;A Lecture (ZH) Friday 12-13 Tutorial (ZH) Course starts: Friday, Sept. 24 in ZH</i>			3 hrs	Thu Fri	10-11 11-12 11-12 12-13	BSD G207.1 BSD G207.1 HG D16.2 HG D16.2		D. Iber
636-0510-00L	<b>Proteomics and Drug Discovery Research</b>	W	2 credits	2V					
636-0510-00 V	Proteomics and Drug Discovery Research (University of Basel) <i>**Course at University of Basel** This course will not be offered in Autumn Semester 2021!</i>			2 hrs					external organisers
636-0119-00L	<b>Introduction to Statistics and R</b>	W	6 credits	3G+2A					
636-0119-00 G	Introduction to Statistics and R <i>Attention: Lecture starts Thursday, Sept. 30 This lecture will take place in classroom in Basel.</i>			3 hrs	Thu	16-19	BSA E46		J. Kuipers



636-0119-00 A	Introduction to Statistics and R <i>Project Work (Compulsory continuous performance assessments), no fixed presence required</i>	2 hrs						J. Kuipers
<b>636-0120-00L</b>	<b>Introduction to Programming</b> <i>This is a voluntary programming course BEFORE the start of the semester (september 2021). It is addressed primarily at students of the MSc Biotechnology (and MSc CBB). Other students may send a request to participate to: student-admin@bsse.ethz.ch</i>	<b>Z</b>	<b>0 credits</b>	<b>1G</b>				
636-0120-00 G	Introduction to Programming <i>This course will take place from September 6 - September 17 on Mondays, Wednesdays and Fridays from 9:00 to 12:00.</i>	18s hrs			Mon Wed Fri	09-12 09-12 09-12	BSA E46 BSA E46 BSA E46	<b>D. S. Roqueiro</b>
<b>636-0552-00L</b>	<b>Metals in Biology</b> <i>Metals in Biology (University of Basel) **Course at University of Basel** Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/de/recherche?id=259075">https://vorlesungsverzeichnis.unibas.ch/de/recherche?id=259075</a></i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				external organisers
636-0553-00 G	Chemical Biology (University of Basel) <i>**Course at University of Basel** Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/en/semester-planning?id=259056">https://vorlesungsverzeichnis.unibas.ch/en/semester-planning?id=259056</a></i>			3 hrs				external organisers
<b>636-0551-00L</b>	<b>Supramolecular Chemistry</b> <i>Supramolecular Chemistry (University of Basel) **Course at University of Basel** Tuesday, 10.15-12.00, Campus Rosental 1060, Seminar room: 7.48 Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/en/semester-planning?id=259081">https://vorlesungsverzeichnis.unibas.ch/en/semester-planning?id=259081</a></i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				<b>K. Tiefenbacher</b>
636-0551-00 V				2 hrs				

## ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-BSSE.

## Biotechnology Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# CAS ARC Digital

## ► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>072-0101-00L</b>	<b>Module 1: Foundations of Digitalisation</b> <i>Only for CAS ARC in Digital and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0101-00 G	Modul 1: Grundlagen der Digitalisierung <i>Kursraum HIB E33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0102-00L</b>	<b>Module 2: Behaviour for Collaboration Foundation</b> <i>Only for CAS ARC in Digital and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0102-00 G	Modul 2: Zusammenarbeit <i>Kursraum: HIB E33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0103-00L</b>	<b>Module 3: Foundation of Automation</b> <i>Only for CAS ARC in Digital and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0103-00 G	Modul 3: Automation, IoT & AI <i>Kursraum HIB E33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0104-00L</b>	<b>Module 4: Foundation of Value Creation</b> <i>Only for CAS ARC in Digital and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0104-00 G	Modul 4: Wertschöpfung <i>Kursraum: HIB E33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0105-00L</b>	<b>Module 5: New Business Modelle</b> <i>Only for CAS ARC in Digital and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0105-00 G	Modul 5: Geschäftsmodelle <i>Kursraum: HIB E33.</i>			25s hrs by appt.	<b>A. Paulus</b>

## ► Term Paper

*The Term Paper is offered in spring semesters only.*

### CAS ARC Digital - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS ARC in Project Leadership

## ► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>072-0201-00L</b>	<b>Module 1: Understanding of Roles</b> <i>Only for CAS ARC in Project and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0201-00 G	Modul 1: Rollenverständnis <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0202-00L</b>	<b>Module 2: Collaboration</b> <i>Only for CAS ARC in Project and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0202-00 G	Modul 2: Zusammenarbeit <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0203-00L</b>	<b>Module 3: Services and tasks</b> <i>Only for CAS ARC in Project and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0203-00 G	Modul 3: Leistungen <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0204-00L</b>	<b>Module 4: Guiding/Steering/Leading</b> <i>Only for CAS ARC in Project and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0204-00 G	Modul 4: Leiten/Lenken/Führen <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0205-00L</b>	<b>Module 5: Project</b> <i>Only for CAS ARC in Project and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0205-00 G	Modul 5: Projekt <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>

## ► Term Paper

*Offered in the Spring Semester.*

### CAS ARC in Project Leadership - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS ARC in Real Estate Strategies urban-peri-urban

## ► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>072-0301-00L</b>	<b>Module 1: Perception of Demand</b> <i>Only for CAS ARC in Real Estate Strategies urban-peri-urban and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0301-00 G	Modul 1: Aufgabenverständnis <i>Does not take place this semester. Kursraum: HIB E33</i>			25s hrs	
<b>072-0302-00L</b>	<b>Module 2: State of the Art</b> <i>Only for CAS ARC in Real Estate Strategies urban-peri-urban and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0302-00 G	Modul 2: Stand der Dinge <i>Does not take place this semester. Kursraum: HIB E33</i>			25s hrs	
<b>072-0303-00L</b>	<b>Module 3: Economic Interest</b> <i>Only for CAS ARC in Real Estate Strategies urban-peri-urban and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0303-00 G	Modul 3: Ökonomie <i>Does not take place this semester. Kursraum: HIB E33.</i>			25s hrs	
<b>072-0304-00L</b>	<b>Module 4: Course of Action</b> <i>Only for CAS ARC in Real Estate Strategies urban-peri-urban and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0304-00 G	Modul 4: Handlungsoptionen <i>Does not take place this semester. Kursraum: HIB E33</i>			25s hrs	
<b>072-0305-00L</b>	<b>Module 5: Life Cycle and Resources</b> <i>Only for CAS ARC in Real Estate Strategies urban-peri-urban and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0305-00 G	Modul 5: Lebenszyklus und Ressourcen <i>Does not take place this semester. Kursraum: HIB E33.</i>			25s hrs	

## ► Term Paper

*The term paper is offered in spring semester only.*

### CAS ARC in Real Estate Strategies urban-peri-urban - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# CAS ARC in Unternehmensführung

## ► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>072-0401-00L</b>	<b>Module 1: Market</b> <i>Only for CAS ARC in Unternehmensführung and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0401-00 G	Modul 1: Markt <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0402-00L</b>	<b>Module 2: Acquisition</b> <i>Only for CAS ARC in Unternehmensführung and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0402-00 G	Modul 2: Akquisition <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0403-00L</b>	<b>Module 3: Marketing</b> <i>Only for CAS ARC in Unternehmensführung and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0403-00 G	Modul 3: Marketing <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0404-00L</b>	<b>Module 4: Financial Management</b> <i>Only for CAS ARC in Unternehmensführung and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0404-00 G	Modul 4: Finanzielle Führung <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0405-00L</b>	<b>Module 5: Digitalisation</b> <i>Only for CAS ARC in Unternehmensführung and MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0405-00 G	Modul 5: Digitalisierung <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>

## ► Term Paper

*Offered in the Spring Semester.*

### CAS ARC in Unternehmensführung - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS in Advanced Materials and Processes

## ► Module

Number	Title	Type	ECTS	Hours	Lecturers
344-0100-00L	<b>CAS Module in Advanced Materials and Processes</b> <i>Only for CAS in Advanced Materials and Processes.</i> <i>The enrolment is done by the MaP executive office.</i>	O	12 credits	26A	
344-0100-00 A	CAS Module in Advanced Materials and Processes			360s hrs by appt.	Professors

### CAS in Advanced Materials and Processes - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS in Applied Earth Sciences

## ► Modules Geo-Resources

The Module Geo-Resources runs over two semesters (FS and HS) and is offered every three years.

Takes place in FS22 + HS22

Number	Title	Type	ECTS	Hours	Lecturers
669-0102-00L	<b>Autumn Course: Utilisation of Geothermal Energy</b> Only for CAS in Angewandten Erdwissenschaften.	W	2 credits	2G	
669-0102-00 G	Herbstkurs: Untiefe Geothermie Does not take place this semester. Der Kurs wird alle 3 Jahre angeboten. Nächste Durchführung HS 2022.			32s hrs	M. O. Saar, to be announced

## ► Modules Geo-Constructions

The Module Geo-Constructions runs over two semesters (FS and HS) and is offered every three years.

Takes place in FS23 + HS23

Number	Title	Type	ECTS	Hours	Lecturers
669-0202-00L	<b>Autumn Course: Engineering Geology in W Underground Constructions</b> Only for CAS in Angewandten Erdwissenschaften.		2 credits	2G	
669-0202-00 G	Herbstkurs: Ingenieurgeologie im Untertagebau Does not take place this semester. Der Kurs wird alle 3 Jahre angeboten. Nächste Durchführung HS 2023.			32s hrs	S. Löw
	Blockkurs				

## ► Modules Geo-Risks

The Module Geo-Risks runs over two semesters (FS and HS) and is offered every three years.

Number	Title	Type	ECTS	Hours	Lecturers
669-0302-00L	<b>Autumn Course: Landslide Processes and Hazards</b> Only for CAS in Angewandten Erdwissenschaften.	W	2 credits	2G	
669-0302-00 G	Herbstkurs: Gefahrenanalyse von Hanginstabilitäten Der Kurs wird alle 3 Jahre als Blockkurs angeboten.			32s hrs	S. Löw, J. Aaron, A. Manconi
	Blockkurs: 07.09.2021 - 10.09.2021			07.09.- 08-18 10.09. HG E41	

## CAS in Applied Earth Sciences - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS in Applied Statistics

## ► Compulsory Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>447-0649-01L</b>	<b>Applied Statistical Regression I</b> <i>Only for DAS and CAS in Applied Statistics.</i>	<b>O</b>	<b>4 credits</b>	<b>1V+1U</b>					
447-0649-01 V	Angewandte statistische Regression I			18s hrs	Mon/1	08-10	HG E1.1		<b>M. Tanadini</b>
					20.09.	08-10	HG E1.1		
447-0649-01 U	Angewandte statistische Regression I			18s hrs	Mon/1	10-12	HG E19		<b>M. Tanadini</b>
					20.09.	10-12	HG E19		
<b>447-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design I</b> <i>Only for DAS and CAS in Applied Statistics.</i>	<b>O</b>	<b>3 credits</b>	<b>1V+1U</b>					
447-0625-01 V	Applied Analysis of Variance and Experimental Design I			14s hrs	Mon/1	14-16	HG G5		<b>L. Meier</b>
447-0625-01 U	Applied Analysis of Variance and Experimental Design I			14s hrs	Mon/1	16-18	HG D11 HG D12 HG E1.2		<b>L. Meier</b>

## ► Further Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>447-0649-02L</b>	<b>Applied Statistical Regression II</b> <i>Only for DAS and CAS in Applied Statistics.</i>	<b>Z</b>	<b>2 credits</b>	<b>1V+1U</b>					
447-0649-02 V	Angewandte statistische Regression II			10s hrs	Mon/2	08-10	HG E1.1		<b>C. Renaux</b>
447-0649-02 U	Angewandte statistische Regression II			10s hrs	Mon/2	10-12	HG E19		<b>C. Renaux</b>
<b>447-0625-02L</b>	<b>Applied Analysis of Variance and Experimental Design II</b> <i>Only for DAS and CAS in Applied Statistics.</i>	<b>Z</b>	<b>3 credits</b>	<b>1V+1U</b>					
447-0625-02 V	Applied Analysis of Variance and Experimental Design II			12s hrs	Mon/2	14-16	HG G5		<b>L. Meier</b>
447-0625-02 U	Applied Analysis of Variance and Experimental Design II			12s hrs	Mon/2	16-18	HG D11 HG D12 HG E1.2		<b>L. Meier</b>
<b>447-6221-00L</b>	<b>Nonparametric Regression</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	<b>W</b>	<b>1 credit</b>	<b>1G</b>					
447-6221-00 G	Nichtparametrische Regression ■ <i>Does not take place this semester. Blockkurs. Weitere Informationen unter <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			10.5s hrs					<b>M. Mächler</b>
<b>447-6257-00L</b>	<b>Repeated Measures</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	<b>W</b>	<b>1 credit</b>	<b>1G</b>					
447-6257-00 G	Wiederholte Messungen ■ <i>Does not take place this semester. Blockkurs. Weitere Informationen unter <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			10.5s hrs					
<b>447-6289-00L</b>	<b>Sampling Surveys</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	<b>W</b>	<b>2 credits</b>	<b>1G</b>					
447-6289-00 G	Stichproben-Erhebungen ■ <i>Does not take place this semester. Blockkurs. Weitere Informationen unter <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			17.5s hrs					
<b>447-6201-00L</b>	<b>Nonparametric and Resampling Methods</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office</i>	<b>Z</b>	<b>2 credits</b>	<b>2G</b>					



will then register you for the course.								
447-6201-00	G	Nonparametric and Resampling Methods <i>Block course on: 17.01.2022 / 24.01.2022 / 31.01.2022</i> <i>Lectures: 8-10 and 14-16</i> <i>Exercises: 10-12 and 16-18</i>		21s hrs	17.01. 08-18 24.01. 08-18 31.01. 08-18	HG D1.1 HG D1.1 HG D1.1	L. Meier, D. Kuonen	
<hr/>								
447-6233-00L		<b>Spatial Statistics</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	W	1 credit	1G			
447-6233-00	G	Spatial Statistics ■ <i>Does not take place this semester. Block course. For further information see <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			10.5s hrs			
<hr/>								
447-6245-00L		<b>Data Mining</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	W	1 credit	1G			
447-6245-00	G	Data-Mining ■ <i>Does not take place this semester. Blockkurs. Weitere Informationen unter <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			14s hrs		M. Mächler	
<hr/>								
447-6273-00L		<b>Bayes Methods</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	W	2 credits	2G			
447-6273-00	G	Bayes-Methoden ■ <i>Does not take place this semester. Blockkurs. Weitere Informationen unter <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			21s hrs			
<hr/>								
447-6191-00L		<b>Statistical Analysis of Financial Data</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	W	2 credits	1G			
447-6191-00	G	Statistical Analysis of Financial Data ■ <i>Does not take place this semester. Block course. For further information see <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			17.5s hrs			

#### CAS in Applied Statistics - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS in Applied Information Technology

The CAS takes place in Autumn Semester only.

## ► Module

Number	Title	Type	ECTS	Hours	Lecturers
<b>265-0100-00L</b>	<b>Foundations of Programming</b> <i>Only for CAS in Applied Information Technology and MAS in Applied Technology.</i>	<b>O</b>	<b>3 credits</b>	<b>2A</b>	
265-0100-00 A	Foundations of Programming			32s hrs	<b>L. E. Fässler</b>
<b>265-0101-00L</b>	<b>Data Science</b> <i>Only for CAS in Applied Information Technology and MAS in Applied Technology.</i>	<b>O</b>	<b>3 credits</b>	<b>3V</b>	
265-0101-00 V	Data Science <i>Block course</i>			36s hrs 01.10. 08-18 HG D7.2 02.10. 08-12 HG D7.2 15.10. 08-18 HG D7.2 16.10. 08-12 HG D7.2	<b>B. Gärtner</b>
<b>265-0102-00L</b>	<b>Humans &amp; Machines</b> <i>Only for CAS in Applied Information Technology and MAS in Applied Technology.</i>	<b>O</b>	<b>3 credits</b>	<b>2V</b>	
265-0102-00 V	Humans & Machines <i>Block course</i>			30s hrs 29.10. 08-18 HG E33.3 30.10. 08-12 HG E1.1 12.11. 08-18 HG D7.2	<b>E. Konukoglu</b>
<b>265-0103-00L</b>	<b>Applied Information Technology</b> <i>Only for CAS in Applied Information Technology and MAS in Applied Technology.</i>	<b>O</b>	<b>3 credits</b>	<b>3V</b>	
265-0103-00 V	Applied Information Technology <i>Block course</i>			42s hrs 17.09. 08-18 HG D1.1 18.09. 08-12 HG D1.1 26.11. 08-18 LEE E101 27.11. 08-12 LEE E101	<b>M. Brandis</b>

## CAS in Applied Information Technology - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS in Applied Manufacturing Technology

*The CAS takes place in Spring Semester only.*

*Start of the next course: FS 2022*

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■          Special students and auditors need special permission from the lecturers.

# CAS in Applied Technology in Energy

*The CAS takes place in Spring Semester only.*

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# CAS in Applied Technology: R&D and Innovation

The CAS takes place in Autumn Semester only.

## ► Module

Number	Title	Type	ECTS	Hours	Lecturers
<b>247-0200-00L</b>	<b>Organization of R&amp;D in Tech Companies</b> <i>Only for CAS in Applied Technology: R&amp;D and Innovation and MAS in Applied Technology.</i>	<b>O</b>	<b>4 credits</b>	<b>2G</b>	
247-0200-00 G	Organization of R&D in Tech Companies <i>Block course on Fridays 9:00 - 18:00, Saturdays 9:00 - 13:00</i>			24s hrs 17.09. 09-18 HG E22 18.09. 09-13 HG E22 15.10. 09-18 HG E23 16.10. 09-13 HG E23 26.11. 09-18 HG E33.1 27.11. 08-12 ETZ E81	<b>U. Grossner</b>
<b>247-0201-00L</b>	<b>Innovation Opportunity Analysis</b> <i>Only for CAS in Applied Technology: R&amp;D and Innovation and MAS in Applied Technology.</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>	
247-0201-00 G	Innovation Opportunity Analysis <i>Block course on Fridays 9:00 - 18:00, Saturdays 9:00 - 13:00</i>			36s hrs 01.10. 09-18 HG E23 02.10. 09-13 HG E23 29.10. 09-18 HG E33.1 30.10. 09-13 HG E33.1 12.11. 09-18 HG F26.3 13.11. 09-13 HG F26.3 10.12. 08-17 HG D1.1	<b>J. Jaminet</b>
<b>247-0202-00L</b>	<b>Innovation and Technology Tools</b> <i>Only for CAS in Applied Technology: R&amp;D and Innovation and MAS in Applied Technology.</i>	<b>O</b>	<b>2 credits</b>	<b>4G</b>	
247-0202-00 G	Innovation and Technology Tools <i>Online Module</i>			50s hrs	<b>U. Grossner, J. Jaminet</b>
<b>247-0203-00L</b>	<b>Experiment Selection &amp; Design</b> <i>Only for CAS in Applied Technology: R&amp;D and Innovation and MAS in Applied Technology.</i>	<b>O</b>	<b>0 credits</b>		
247-0203-00 U	Experiment Selection & Design <i>By appointment</i>			4s hrs	<b>U. Grossner</b>

### CAS in Applied Technology: R&D and Innovation - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS in Collaborative Decision Making Under Uncertainty

*Takes place only in Spring Semester*

*Start of the next course: Spring Semester 2022*

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# CAS in Cyber Security

The CAS takes place in Autumn Semester only.

## ► Modules

Number	Title	Type	ECTS	Hours				Lecturers
<b>268-0101-00L</b>	<b>Introduction to Information Security</b> <i>Only for CAS and DAS in Cyber Security.</i>	<b>O</b>	<b>5 credits</b>	<b>4G</b>				
268-0101-00 G	Introduction to Information Security			4 hrs	Fri	08-12	HG E22	<b>P. Schaller, S. Matetic</b>
<b>268-0201-00L</b>	<b>Information Security Seminar and Project</b> <i>Only for CAS and DAS in Cyber Security.</i>	<b>O</b>	<b>2 credits</b>	<b>2S</b>				
268-0201-00 S	Information Security Seminar and Project			2 hrs	Fri	14-16	HG E22	<b>S. Matetic</b>
<b>268-0202-00L</b>	<b>Contemporary Topics in Cyber Security</b> <i>Only for CAS and DAS in Cyber Security.</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
268-0202-00 G	Contemporary Topics in Cyber Security			2 hrs	Fri	16-18	HG E22	<b>S. Matetic</b>

### CAS in Cyber Security - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# CAS in Entrepreneurial Leadership in Technology Ventures

Start: Every Autumn Semester and Spring Semester.

Duration: 12 months. It is possible to join the programme at the beginning of each semester.

## ► Core Knowledge

Number	Title	Type	ECTS	Hours	Lecturers
<b>373-0100-00L</b>	<b>Entrepreneurial Strategies</b> <i>Only for CAS in Entrepreneurial Leadership in Technology Ventures.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
373-0100-00 G	Entrepreneurial Strategies <i>Block course</i>			24s hrs 23.09. 09-18 24.09. 09-18 25.09. 09-18 WEV F109 WEV F109 WEV F109	<b>B. Clarysse</b>
<i>Location: WEV F 109-111 and online (blended format)</i>					
<b>373-0101-00L</b>	<b>Entrepreneurial Leadership and Teams</b> <i>Only for CAS in Entrepreneurial Leadership in Technology Ventures.</i>	<b>O</b>	<b>1 credit</b>	<b>1G</b>	
373-0101-00 G	Entrepreneurial Leadership and Teams <i>Block course</i>			16s hrs 26.11. 09-18 27.11. 09-18 WEV F109 WEV F109	<b>J. Thiel</b>
<i>Location: WEV F 109-111 and online (blended format)</i>					
<b>373-0102-00L</b>	<b>Entrepreneurial Marketing &amp; Sales</b> <i>Only for CAS in Entrepreneurial Leadership in Technology Ventures.</i>	<b>O</b>	<b>1 credit</b>	<b>1G</b>	
373-0102-00 G	Entrepreneurial Marketing & Sales <i>Block course</i>			16s hrs 28.01. 09-18 29.01. 09-18 WEV F109 WEV F109	<b>M. Gruber</b>
<i>Location: WEV F 109-111 and online (blended format)</i>					

## ► Business & Leadership Development

Number	Title	Type	ECTS	Hours	Lecturers
<b>373-0200-00L</b>	<b>Business Development of Technology Ventures I</b> <i>Only for CAS in Entrepreneurial Leadership in Technology Ventures.</i>	<b>O</b>	<b>2 credits</b>	<b>2P</b>	
373-0200-00 P	Business Development of Technology Ventures I <i>Kick- off event in conjunction with Module "Entrepreneurial Strategies &amp; Lean Innovation"</i> Online coaching during the semester (dates will be decided in agreement with participants)			24s hrs	<b>B. Clarysse</b>
Dates: 23.09. - 25.09.2021 Room: WEV F 109-111					
<b>373-0201-00L</b>	<b>Leadership Development I</b> <i>Only for CAS in Entrepreneurial Leadership in Technology Ventures.</i>	<b>O</b>	<b>1 credit</b>	<b>1P</b>	
373-0201-00 P	Leadership Development I <i>Kick- off event in conjunction with Module "Entrepreneurial Strategies &amp; Lean Innovation"</i> Monthly online and/or F2F coaching during the semester (dates will be decided in agreement with participants)			12s hrs	<b>B. Clarysse</b>
Dates: 23.09. - 25.09.2021 Room: WEV F 109-111					
<b>373-0205-00L</b>	<b>Final Business Project Defense</b> <i>Only for CAS in Entrepreneurial Leadership in Technology Ventures.</i>	<b>O</b>	<b>1 credit</b>		
373-0205-00 P	Final Business Project Defense <i>Does not take place this semester.</i>			4s hrs	<b>B. Clarysse, to be announced</b>

## ► Skills & Ecosystem Immersion

Courses are only offered in Spring Semester.

### CAS in Entrepreneurial Leadership in Technology Ventures - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate



#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# CAS in Development and Cooperation

Take place each spring semester and every second autumn semester (odd years).

## ► Module

Number	Title	Type	ECTS	Hours	Lecturers
865-0065-00L	<b>VET between Poverty Alleviation and Economic Development</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation.</i>  <i>ETH doctoral students working on topics related to poverty reduction in low- and middle income countries may also be admitted.</i>  <i>Registration only through the NADEL administration office.</i>	W	2 credits	3G	
865-0065-00 G	VET between Poverty Alleviation and Economic Development Block course from 13.09. – 17.09.2021 Location: CLD A1			40s hrs	K. Harttgen, F. Kehl, M. Maurer
865-0000-01L	<b>Planning and Monitoring of Projects</b> <i>Only for CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation.</i>  <i>ETH doctoral students working on topics related to poverty reduction in low- and middle income countries may also be admitted.</i>  <i>Registration only through the NADEL administration office.</i>	O	2 credits	3G	
865-0000-01 G	Planning and Monitoring of Projects Block course from 20.09. – 24.09.2021 Location: CLD A1			40s hrs	K. Schneider
865-0000-06L	<b>Impact Evaluations in Practice</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation.</i>  <i>ETH doctoral students working on topics related to poverty reduction in low- and middle income countries may also be admitted.</i>  <i>Registration only through the NADEL administration office.</i>	W	2 credits	3G	
865-0000-06 G	Impact Evaluations in Practice Block course from 04.10. – 08.10.2021 Location: CLD A1			40s hrs	I. Günther, A. Rom, K. Schneider
865-0042-00L	<b>Financial Management of Projects</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation.</i>  <i>ETH doctoral students working on topics related to poverty reduction in low- and middle income countries may also be admitted.</i>  <i>Registration only through the NADEL administration office.</i>	W	2 credits	2G	
865-0042-00 G	Finanzmanagement von Projekten Block course from 26.10. – 29.10.2021 Location: CLD A1			32s hrs	I. Günther, M. Störmer
865-0064-00L	<b>Decolonizing Aid</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation. Doctoral students dealing with empirical research in the area of development and cooperation (EZA) may be admitted "sur Dossier".</i>  <i>Registration only through the NADEL administration office.</i>	W	2 credits	3G	

865-0064-00 G	Decolonizing Aid Block course from 01.11. - 05.11.2021 Location: CLD A1			40s hrs	K. Schneider, L. Hensgen
865-0070-00L	<b>The Private Sector and Development Organizations: Building Successful Alliances</b> Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation. Doctoral students dealing with empirical research in the area of development and cooperation (EZA) may be admitted "sur Dossier".  Registration only through the NADEL administration office.	W	1 credit	2G	
865-0070-00 G	The Private Sector and Development Organizations: Building Successful Alliances Block course from 15.11. – 17.11.2021 Location: CLD A1			24s hrs	F. Brugger
865-0021-00L	<b>Fraud and Corruption: Prevent, Detect, Investigate, Sanction</b> Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation.  ETH doctoral students working on topics related to poverty reduction in low- and middle income countries may also be admitted.  Registration only through the NADEL administration office.	W	1 credit	2G	
865-0021-00 G	Fraud and Corruption: Prevent, Detect, Investigate, Sanction Block course from 06.12. – 08.12.2021 Location: CLD A1			24s hrs	L. Hensgen, M. Schmid-Huberty
865-0006-00L	<b>Leveraging Private Impact Investors in Development Cooperation</b> Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation. Doctoral students dealing with empirical research in the area of development and cooperation (EZA) may be admitted "sur Dossier".  Registration only through the NADEL administration office.	W	1 credit	1G	
865-0006-00 G	Leveraging Private Impact Investors in Development Cooperation Block course Location: CLD A1			16s hrs	C. Humphrey
865-0041-00L	<b>Natural Resource Governance and Development: Policies and Practice</b> Only for CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation.  ETH doctoral students working on topics related to poverty reduction in low- and middle income countries may also be admitted.  Registration only through the NADEL administration office.	W	3 credits	3S	
865-0041-00 S	Natural Resource Governance and Development: Policies and Practice Online course from September 2021 to November 2021			36s hrs	F. Brugger, further speakers

#### CAS in Development and Cooperation - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# CAS in Computer Science

## ► Focus Courses and Electives

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0237-00L</b>	<b>Concepts of Object-Oriented Programming</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
252-0237-00 V	Concepts of Object-Oriented Programming <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Thu	09-12	HG E1.1	<b>P. Müller</b>
252-0237-00 U	Concepts of Object-Oriented Programming			2 hrs	Fri	08-10 10-12	CAB G57 CHN D42 CAB G57 CHN D42 CHN D44	<b>P. Müller</b>
252-0237-00 A	Concepts of Object-Oriented Programming			2 hrs				<b>P. Müller</b>
<b>252-0293-00L</b>	<b>Wireless Networking and Mobile Computing</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
252-0293-00 V	Wireless Networking and Mobile Computing			2 hrs	Mon	16-18	HG E5	<b>S. Mangold</b>
252-0293-00 U	Wireless Networking and Mobile Computing			1 hrs	Mon	18-19	HG E5	<b>S. Mangold</b>
<b>252-0417-00L</b>	<b>Randomized Algorithms and Probabilistic Methods</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0417-00 V	Randomized Algorithms and Probabilistic Methods			3 hrs	Wed Thu	08-09 16-18	ML D28 ML D28	<b>A. Steger</b>
252-0417-00 U	Randomized Algorithms and Probabilistic Methods			2 hrs	Tue	14-16 16-18	HG D1.2 HG D1.2	<b>A. Steger</b>
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>			4 hrs				<b>A. Steger</b>
<b>252-0463-00L</b>	<b>Security Engineering</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-0463-00 V	Security Engineering			2 hrs	Wed	10-12	CAB G51	<b>S. Krstic</b>
252-0463-00 U	Security Engineering <i>Lab sessions every Friday in CAB H52 from 10-12</i>			2 hrs	Wed Fri	14-16 10-12	CAB G51 CAB H52	<b>S. Krstic</b>
252-0463-00 A	Security Engineering			2 hrs				<b>S. Krstic</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed Thu Fri	14-16 16-18 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>252-0543-01L</b>	<b>Computer Graphics</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
252-0543-01 V	Computer Graphics <i>Does not take place this semester.</i>			3 hrs				
252-0543-01 U	Computer Graphics <i>Does not take place this semester.</i>			2 hrs				
252-0543-01 A	Computer Graphics <i>Does not take place this semester.</i>			2 hrs				
<b>252-0546-00L</b>	<b>Physically-Based Simulation in Computer Graphics</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>				
252-0546-00 V	Physically-Based Simulation in Computer Graphics			2 hrs	Tue	10-12	CAB G51	<b>V. da Costa de Azevedo,</b> <b>B. Solenthaler,</b> <b>B. Thomaszewski</b>
252-0546-00 U	Physically-Based Simulation in Computer Graphics			1 hrs	Tue	16-17	CAB G51	<b>V. da Costa de Azevedo,</b> <b>B. Solenthaler,</b> <b>B. Thomaszewski</b>
252-0546-00 A	Physically-Based Simulation in Computer Graphics			1 hrs				<b>V. da Costa de Azevedo,</b> <b>B. Solenthaler,</b> <b>B. Thomaszewski</b>
<b>252-1407-00L</b>	<b>Algorithmic Game Theory</b>	<b>W</b>	<b>7 credits</b>	<b>3V+2U+1A</b>				
252-1407-00 V	Algorithmic Game Theory			3 hrs	Fri	10-13	CHN C14	<b>P. Penna</b>
252-1407-00 U	Algorithmic Game Theory			2 hrs	Tue	10-12 16-18	CAB G57 CAB G59 LFW B3	<b>P. Penna</b>
252-1407-00 A	Algorithmic Game Theory <i>Project Work, no fixed presence required.</i>			1 hrs				<b>P. Penna</b>
<b>252-1411-00L</b>	<b>Security of Wireless Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>				
252-1411-00 V	Security of Wireless Networks			2 hrs	Tue	14-16	ML F34	<b>S. Capkun,</b> K. Kostiainen
252-1411-00 U	Security of Wireless Networks			1 hrs	Fri/2w	14-16	CAB E87.2	<b>S. Capkun,</b> K. Kostiainen
252-1411-00 A	Security of Wireless Networks <i>includes a semester long project</i>			2 hrs				<b>S. Capkun,</b> K. Kostiainen
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	<b>S. Capkun, A. Perrig</b>

252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>	2 hrs	Thu	14-16 16-18	HG D3.2 CAB G11	<b>S. Capkun, A. Perrig</b>
252-1414-00 A	System Security	2 hrs				<b>S. Capkun, A. Perrig</b>
<b>252-1425-00L</b>	<b>Geometry: Combinatorics and Algorithms</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>		
252-1425-00 V	Geometry: Combinatorics and Algorithms	3 hrs	Mon Thu	13-14 14-16	CAB G51 CAB G51	<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
252-1425-00 U	Geometry: Combinatorics and Algorithms	2 hrs	Mon 23.09. 30.09.	14-16 16-18 16-18	CAB G51 CAB G51 CAB G51	<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
252-1425-00 A	Geometry: Combinatorics and Algorithms <i>Project Work, no fixed presence required.</i>	2 hrs				<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
<b>252-3005-00L</b>	<b>Natural Language Processing</b> <i>Number of participants limited to 400.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>		
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>	2 hrs	Mon	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 U	Natural Language Processing	2 hrs	Wed	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 A	Natural Language Processing	1 hrs				<b>R. Cotterell</b>
<b>227-2210-00L</b>	<b>Computer Architecture</b>	<b>W</b>	<b>8 credits</b>	<b>6G+1A</b>		
227-2210-00 G	Computer Architecture <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	6 hrs	Thu Fri	13-16 13-16	HG D16.2 HG D16.2	<b>O. Mutlu</b>
227-2210-00 A	Computer Architecture	1 hrs				<b>O. Mutlu</b>
<b>263-2400-00L</b>	<b>Reliable and Trustworthy Artificial Intelligence</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U+1A</b>		
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Wed	14-16	HG G3	<b>M. Vechev</b>
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Mon Wed	12-14 12-14	CAB G56 CAB G51	<b>M. Vechev</b>
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence	1 hrs				<b>M. Vechev</b>
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance Computing</b> <i>Number of participants limited to 125.</i>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>		
263-2800-00 V	Design of Parallel and High-Performance Computing	3 hrs	Mon	13-16	CAB G11	<b>T. Hoefler, M. Püschel</b>
263-2800-00 U	Design of Parallel and High-Performance Computing	2 hrs	Thu	14-16	CHN C14	<b>T. Hoefler, M. Püschel</b>
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>	3 hrs				<b>T. Hoefler, M. Püschel</b>
<b>263-3010-00L</b>	<b>Big Data</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>		
263-3010-00 V	Big Data <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	3 hrs	Tue Wed	14-16 09-10	CAB G61 ML H44	<b>G. Fourny</b>
263-3010-00 U	Big Data <i>Groups are selected in myStudies.</i>	2 hrs	Wed  Fri	14-16  14-16	CAB G52 HG E33.1 HG G26.1 ON LINE CAB G52 ON LINE	<b>G. Fourny</b>
263-3010-00 A	Big Data <i>Individual work to get hands-on experience with the technologies covered, no fixed presence required.</i>	4 hrs				<b>G. Fourny</b>
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>		
263-3210-00 V	Deep Learning	3 hrs	Wed Thu	13-14 14-16	ML D28 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 U	Deep Learning	2 hrs	Mon Wed	16-18 16-18	HG G5 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 A	Deep Learning	2 hrs				<b>F. Perez Cruz, A. Lucchi</b>
<b>263-3845-00L</b>	<b>Data Management Systems</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>		
263-3845-00 V	Data Management Systems	3 hrs	Wed Fri	10-12 08-09	CAB G61 HG G3	<b>G. Alonso</b>
263-3845-00 U	Data Management Systems	1 hrs	Fri	09-10	HG D5.1 HG E21 HG G26.1	<b>G. Alonso</b>
263-3845-00 A	Data Management Systems	3 hrs				<b>G. Alonso</b>
<b>263-3850-00L</b>	<b>Informal Methods</b>	<b>W</b>	<b>5 credits</b>	<b>2G+2A</b>		
263-3850-00 G	Informal Methods	2 hrs	Thu	10-12	CAB G59	<b>D. Cock</b>
263-3850-00 A	Informal Methods	2 hrs				<b>D. Cock</b>
<b>263-4500-00L</b>	<b>Advanced Algorithms</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>		

263-4500-00 V	Advanced Algorithms <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	3 hrs	Wed	09-12	HG D5.2	<b>M. Ghaffari</b> , G. Zuzic
263-4500-00 U	Advanced Algorithms	2 hrs	Fri	10-12	CAB G59	<b>M. Ghaffari</b> , G. Zuzic
263-4500-00 A	Advanced Algorithms	3 hrs				<b>M. Ghaffari</b> , G. Zuzic
<b>263-4640-00L</b>	<b>Network Security</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U+3A</b>		
263-4640-00 V	Network Security	2 hrs	Tue	10-12	HG E1.2	<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson
263-4640-00 U	Network Security	2 hrs	Thu	16-18	CAB G61	<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>	3 hrs				<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson
<b>263-5005-00L</b>	<b>Artificial Intelligence in Education</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>		
	<i>Number of participants limited to 75.</i>					
263-5005-00 V	Artificial Intelligence in Education <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Thu	16-18	RZ F21	<b>M. Sachan</b> , T. Sinha
263-5005-00 U	Artificial Intelligence in Education <i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>	1 hrs	Thu	18-19	RZ F21	<b>M. Sachan</b> , T. Sinha
263-5005-00 A	Artificial Intelligence in Education	1 hrs				<b>M. Sachan</b> , T. Sinha
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>		
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>	3 hrs	Fri	10-12	ETA F5 ETF E1	<b>A. Krause</b>
				13-14	ETA F5 ETF E1	
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>	2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>
263-5210-00 A	Probabilistic Artificial Intelligence	2 hrs				<b>A. Krause</b>
<b>263-5255-00L</b>	<b>Foundations of Reinforcement Learning</b>	<b>W</b>	<b>5 credits</b>	<b>2V+2A</b>		
	<i>Number of participants limited to 190.</i>					
263-5255-00 V	Foundations of Reinforcement Learning	2 hrs	Fri	14-16	CAB G11	<b>N. He</b>
263-5255-00 A	Foundations of Reinforcement Learning	2 hrs				<b>N. He</b>
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>		
263-5902-00 V	Computer Vision	3 hrs	Wed	14-16	NO C60	<b>M. Pollefeys</b> , S. Tang, F. Yu
			Thu	12-13	HG G5	
263-5902-00 U	Computer Vision	1 hrs	Thu	13-14	CAB G51	<b>M. Pollefeys</b> , S. Tang, F. Yu
			Fri	13-14	CAB G51	
263-5902-00 A	Computer Vision	3 hrs				<b>M. Pollefeys</b> , S. Tang, F. Yu
<b>263-5905-00L</b>	<b>Mixed Reality</b>	<b>W</b>	<b>5 credits</b>	<b>3G+1A</b>		
263-5905-00 G	Mixed Reality	3 hrs	Mon	10-13	CAB G11	<b>I. Armeni</b> , F. Bogo, M. Pollefeys
263-5905-00 A	Mixed Reality	1 hrs				<b>I. Armeni</b> , F. Bogo, M. Pollefeys
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>		
636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>	3 hrs	Wed	14-17	HG D3.2	<b>J. Stelling</b>
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>	2 hrs	Fri	10-12	HG D1.2	<b>J. Stelling</b>
<b>636-0017-00L</b>	<b>Computational Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>		
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>	3 hrs	Mon	16-18	BSA E46 HG D16.2	<b>T. Vaughan</b>
			Thu	18-19	HG D16.2	
				12-13	BSA E46	
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>	2 hrs				<b>T. Vaughan</b>

## ► Seminars

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

252-3811-00L	<b>Case Studies from Practice Seminar</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	4 credits	2S						
252-3811-00 S	Case Studies from Practice Seminar			2 hrs	21.09. 28.09. 05.10. 12.10.	16-18 16-18 16-18 16-18	CAB H52 CAB H52 CAB H52 CAB H52	<b>M. Brandis</b>		
252-4601-00L	<b>Current Topics in Information Security</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S						
252-4601-00 S	Current Topics in Information Security <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	14-16	CAB G57	<b>S. Capkun, K. Paterson, A. Perrig, S. Shinde</b>		
252-5051-00L	<b>Advanced Topics in Machine Learning</b> <i>Number of participants limited to 40.</i>  <i>The deadline for deregistering expires at the end of the fourth week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S						
252-5051-00 S	Advanced Topics in Machine Learning ■			2 hrs	Tue Thu	16-18 16-18	CAB G56 CAB G57	<b>J. M. Buhmann, R. Cotterell, J. Vogt, F. Yang</b>		
252-5701-00L	<b>Advanced Topics in Computer Graphics and Vision</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the third week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S						
252-5701-00 S	Advanced Topics in Computer Graphics and Vision			2 hrs	Thu	14-16	CAB G56	<b>M. Pollefeys, O. Sorkine Hornung, S. Tang</b>		
263-2100-00L	<b>Research Topics in Software Engineering</b> <i>Number of participants limited to 22.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S						
263-2100-00 S	Research Topics in Software Engineering <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	14-16	CHN G46	<b>P. Müller, M. Püschel</b>		
263-3504-00L	<b>Hardware Acceleration for Data Processing</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S						
263-3504-00 S	Hardware Acceleration for Data Processing <i>Online seminar: This seminar will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	14-16	ML J34.1	<b>G. Alonso</b>		
263-5156-00L	<b>Beyond iid Learning: Causality, Dynamics, and Interactions</b> <i>Number of participants limited to 60.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S						



263-5156-00 S	Beyond iid Learning: Causality, Dynamics, and Interactions <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>	2 hrs	Wed	16-18	ON LINE	<b>M. Mühlebach</b> , A. Krause, B. Schölkopf
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------	-------	-----	-------	---------	--------------------------------------------------

<b>263-3713-00L</b>	<b>Advanced Topics in Human-Centric Computer Vision</b> <i>Numbers of participants limited to 20.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>
---------------------	----------------------------------------------------------------------------------------------------------	----------	------------------	-----------

*The deadline for deregistering expires at the end of the third week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.*

263-3713-00 S	Advanced Topics in Human-Centric Computer Vision	2 hrs	Thu	16-18	CAB G52	<b>O. Hilliges</b>
---------------	--------------------------------------------------	-------	-----	-------	---------	--------------------

#### CAS in Computer Science - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■          Special students and auditors need special permission from the lecturers.

## CAS in International Policy and Advocacy

*The CAS is offered once per year in the spring semester.  
Course duration: 1 Semester, part-time*

More information at: [www.sspg.ethz.ch/en](http://www.sspg.ethz.ch/en)

### CAS in International Policy and Advocacy - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■          Special students and auditors need special permission from the lecturers.

# CAS in Future Transport Systems: New Business Models

The "CAS in Future Transport Systems: New Business Models" takes place only in Spring Semester

Start of the next course: Spring Semester 2022

Course duration: Six months part time

Periodicity: Every two years

More Information at: <http://www.mas-mobilitaet.mavt.ethz.ch/>

## CAS in Future Transport Systems: New Business Models - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# CAS in Future Transport Systems: Systemic Aspects of Future Transport

The "CAS in Future Transport Systems: Systemic Aspects of Future Transport" takes place only in Spring Semester

Start of the next course: Spring Semester 2023

Course duration: Six months part time

Periodicity: Every two years

More Information at: <http://www.mas-mobilitaet.mavt.ethz.ch/>

## CAS in Future Transport Systems: Systemic Aspects of Future Transport - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# CAS in Future Transport Systems: Technology Potential

The "CAS in Future Transport Systems: Technology Potential" takes place only in Autumn Semester

Start of the next course: Autumn Semester 2021

Course duration: Six months part time

Periodicity: Every two years

More Information at: <http://www.mas-mobilitaet.mavt.ethz.ch/>

## ► Major Courses

Number	Title	Type	ECTS	Hours	Lecturers				
166-0200-00L	<b>Technology Potential: Powertrain, Systems and Energy Carriers</b> <i>Only for MAS in Future Transport Systems and CAS in Future Transport Systems: Technology Potential.</i>	O	3.5 credits	3G					
166-0200-00 G	Technologie-Potenziale: Antriebs-/Fahrzeugtechnik und Energieträger <i>Blockkurs</i> <i>Einführungsvormittag 24.08.21</i> <i>Die genauen Unterrichtszeiten werden von den Dozierenden kommuniziert.</i>			45s hrs	24.08. 26.08. 27.08. 15.09. 16.09.	08-17 08-17 08-17 08-17 08-17	LEO C12 LEO C12 LEO C12 LEO C12 LEO C12	<b>C. Onder</b>	
166-0201-00L	<b>Potential of Spatial Information- and Communication Technologies</b> <i>Only for MAS in Future Transport Systems and CAS in Future Transport Systems: Technology Potential.</i>	O	3 credits	3G					
166-0201-00 G	Potenziale räumlicher Informations- und Kommunikationstechnologien ■ <i>Blockkurs (Ort: LEO C12 oder Hönggerberg)</i>			40s hrs	02.11.- 05.11.  08.12.	08-12   08-12	LEO C12  LEO C12 LEO C12	<b>P. Kiefer</b>	
166-0202-00L	<b>Integrated Assessment of Technologies and Transport Systems</b> <i>Only for MAS in Future Transport Systems and CAS in Future Transport Systems: Technology Potential.</i>	O	2 credits	1G					
166-0202-00 G	Integrated Assessment of Technologies and Transport Systems ■ <i>Blockkurs</i>			20s hrs	08.12. 09.12.- 10.12.	13-17 08-12  13-17	LEO C12 LEO C12 LEO C12	<b>C. L. Mutel</b>	
166-0203-00L	<b>Energy Carrier for the Mobility of the Future</b> <i>Only for MAS in Future Transport Systems and CAS in Future Transport Systems: Technology Potential.</i>	O	3.5 credits	3G					
166-0203-00 G	Energieträger für eine Mobilität der Zukunft ■ <i>Findet im LEO C 12 (08-12 und 13-17) statt, Ausnahme: 25.08.2021, EMPA Dübendorf 08.10.2021, PSI, Villigen</i>			40s hrs	25.08. 17.09. 06.10. 07.10. 08.10.	08-17 08-17 08-17 08-17 08-17	Ex tern LEO C12 LEO C12 LEO C12 Ex tern	<b>C. Bach</b>	

## ► CAS Thesis

Number	Title	Type	ECTS	Hours	Lecturers			
<b>166-0290-00L</b>	<b>CAS Thesis on Technology Potentials</b> <i>Only for MAS in Future Transport Systems and CAS in Future Transport Systems: Technology Potential.</i>	<b>O</b>	<b>3 credits</b>	<b>5D</b>				
166-0290-00 D	CAS-Arbeit Technologie-Potenziale ■ <i>Daten der Veranstaltung (Ort: tbd): 24.08.21 Kick-off CAS Arbeit 27.01.22 Präsentation CAS Arbeit</i>			75s hrs	<b>M. A. Streicher-Porte</b>			

## CAS in Future Transport Systems: Technology Potential - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS  
■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

## CAS in Nutrition for Disease Prevention and Health

### ► Disciplinary Subjects

Number	Title	Type	ECTS	Hours				Lecturers	
752-6101-00L	Dietary Etiologies of Chronic Disease	W	3 credits	2V					M. B. Zimmermann
752-6101-00 V	Dietary Etiologies of Chronic Disease			2 hrs	Thu	08-10	CAB G11		
752-6403-00L	Nutrition and Performance	W	2 credits	2V					S. Mettler, M. B. Zimmermann
752-6403-00 V	Nutrition and Performance			2 hrs	Thu	14-16	ML E12		
752-6301-00L	Selected Topics in Physiology Related to Nutrition	W	3 credits	2V					F. von Meyenn
752-6301-00 V	Selected Topics in Physiology Related to Nutrition			2 hrs	Thu	10-12	CAB G51		

#### CAS in Nutrition for Disease Prevention and Health - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# CAS in Pharmaceuticals - From Research to Market

## ► Modules

Number	Title	Type	ECTS	Hours	Lecturers
541-0002-00L	<b>Module 2: Project Management in the Pharmaceutical Industry</b> <i>Only for CAS in Pharmaceuticals.</i>	W	2.5 credits	3G	R. Schibli
	<i>The enrolment is done by the CAS in Pharmaceuticals study administration.</i>				
541-0002-00 G	Module 2: Project Management in the Pharmaceutical Industry <i>Does not take place this semester. Blockkurs (5 Tage)</i>			40s hrs	
541-0007-00L	<b>Module 7: Clinical Development</b> <i>Only for CAS in Pharmaceuticals.</i>	W	2.5 credits	3G	R. Furegati Hafner, R. Schibli
	<i>The enrolment is done by the CAS in Pharmaceuticals study administration.</i>				
541-0007-00 G	Module 7: Clinical Development <i>Block course</i>			40s hrs 07.09.- 09-18 HCl J4 09.09. 14.09.- 09-18 HCl J4 15.09.	

## ► Essay

Number	Title	Type	ECTS	Hours	Lecturers
541-1000-00L	<b>Essay</b> <i>Only for CAS in Pharmaceuticals.</i>	O	1 credit	2D	R. Furegati Hafner, R. Schibli
	<i>The enrolment is done by the CAS in Pharmaceuticals study administration.</i>				
541-1000-00 D	Essay			30s hrs	

## CAS in Pharmaceuticals - From Research to Market - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

## CAS in Public Governance and Administration

### ► CAS Thesis

Number	Title	Type	ECTS	Hours	Lecturers
371-0100-00L	<b>CAS Thesis</b> <i>Only for CAS in Public Governance and Administration.</i>	<b>O</b>	<b>7 credits</b>	<b>13D</b>	
371-0100-00 D	CAS Thesis			175s hrs	<b>M. Ambühl, N. Meier</b>

### CAS in Public Governance and Administration - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.



# CAS in Radiopharmaceutical Chemistry, Radiopharmacy

## ► Modules

Number	Title	Type	ECTS	Hours	Lecturers
542-0001-00L	<b>Module I: Pharmacy and Legislation</b> <i>Only for CAS in Radiopharmazeutischer Chemie, Radiopharmacy.</i>	O	4 credits	6G	
	<i>The enrolment is done by the CAS study administration.</i>				
542-0001-00 G	Module I: Pharmacy and Legislation <i>Block course, takes place in Slovenia, University of Ljubljana</i>			80s hrs	R. Schibli, R. Furegati Hafner
542-0003-00L	<b>Module III: Radiopharmacology and Clinical Radiopharmacy</b> <i>Only for CAS in Radiopharmazeutischer Chemie, Radiopharmacy.</i>	O	4 credits	6G	
	<i>The enrolment is done by the CAS study administration.</i>				
542-0003-00 G	Module III: Radiopharmacology and Clinical Radiopharmacy <i>Does not take place this semester. Block course</i>			80s hrs	R. Schibli

### CAS in Radiopharmaceutical Chemistry, Radiopharmacy - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# CAS in Spatial Planning

## ► Lectures

Number	Title	Type	ECTS	Hours	Lecturers
115-0500-00L	<b>Preliminary Course: Introduction to Swiss Spatial Planning</b> <i>Only for MAS, DAS and CAS in Spatial Planning</i>	O	3 credits	3G	
115-0500-00 G	Vorkurs: Einführung in die Raumplanung <i>Datum: 23.08. - 27.08.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			40s hrs	D. Jerjen, A. Schneider
115-0502-00L	<b>Lecture Week 02: Urban Planning and Urban Design I</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	W	2 credits	1G	
115-0502-00 G	Präsenzwoche 02: Stadtplanung und Städtebau I <i>Datum: 08. – 12.11.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	S. Kretz, C. Salewski
115-0503-00L	<b>Lecture Week 03: Landscape Architecture</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	W	2 credits	1G	
115-0503-00 G	Präsenzwoche 03: Landschaftsarchitektur <i>Datum: 06. – 10.12.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	G. Vogt
115-0504-00L	<b>Lecture Week 04: Landscape and Environmental Planning</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	W	2 credits	1G	
115-0504-00 G	Präsenzwoche 04: Landschafts- und Umweltplanung <i>Datum: 10. – 14.01.2022</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	A. Grêt-Regamey, U. Wissen Hayek
115-0501-00L	<b>Lecture Week 01: Spatial Planning: Tasks and Methods</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	W	2 credits	1G	
115-0501-00 G	Präsenzwoche 01: Raumplanung: Aufgaben und Methoden <i>Datum: 11. – 15.10.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	M. Nollert

### CAS in Spatial Planning - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS in Robotics

## ► Modul

Number	Title	Type	ECTS	Hours	Lecturers
172-0100-00L	<b>CAS Module in Robotics and AI</b> <i>Only for CAS in Robotics.</i>	<b>O</b>	<b>12 credits</b>	<b>26A</b>	
172-0100-00 A	CAS Module in Robotics and AI			360s hrs by appt.	Professors

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# CAS in Seismic Evaluation and Retrofitting

Offered only in the Autumn Semester.

## ► Module

Number	Title	Type	ECTS	Hours	Lecturers
<b>139-0101-00L</b>	<b>Module 1: Introduction to Seismic Design and Swiss Seismic Code Provisions</b> <i>Only for CAS iin Seismic Evaluation and Retrofitting.</i>	<b>O</b>	<b>2 credits</b>	<b>3G</b>	
139-0101-00 G	Modul 1: Erdbebengerechter Entwurf und Normen in der Schweiz <i>Blocckurs</i>			42s hrs 03.09. 14-20 04.09. 10-18 17.09. 14-20 18.09. 10-18 01.10. 14-20 09.10. 10-18	HCP E47.3 HCP E47.3 HCP E47.3 HCP E47.3 HIT F11.1 HIL E1 <b>A. Tsiavos, B. Stojadinovic</b>
<b>139-0102-00L</b>	<b>Module 2: Finite Element Modelling and Identification of the Seismic Behavior of Structures</b> <i>Only for CAS iin Seismic Evaluation and Retrofitting.</i>	<b>O</b>	<b>2 credits</b>	<b>3G</b>	
139-0102-00 G	Modul 2: Finite-Elemente-Modellierung und Messtechnik			42s hrs 15.10. 14-20 16.10. 10-18 29.10. 14-20 30.10. 10-18 12.11. 14-20 13.11. 10-18	HIT F11.1 HIL E15.2 HIT F12 HIL E1 HIT F11.1 HIL E1 <b>A. Tsiavos, B. Stojadinovic</b>
<b>139-0103-00L</b>	<b>Module 3: Analysis Methods and Case Study Examples of Seismic Evaluation and Retrofitting</b> <i>Only for CAS iin Seismic Evaluation and Retrofitting.</i>	<b>O</b>	<b>2 credits</b>	<b>3G</b>	
139-0103-00 G	Modul 3: Analysemethoden und Praxisbeispiele von Erdbebenüberprüfung und Erdbebenertüchtigung			42s hrs 26.11. 14-20 27.11. 10-18 10.12. 14-20 11.12. 10-18 07.01. 14-20 08.01. 10-18	HIT F11.1 HIL E1 HIT F11.1 HIL E1 HPT C103 HIL E1 <b>A. Tsiavos, B. Stojadinovic</b>
<b>139-0104-00L</b>	<b>Module 4: Individual Project Exercise</b> <i>Only for CAS iin Seismic Evaluation and Retrofitting.</i>	<b>O</b>	<b>4 credits</b>	<b>2P</b>	
139-0104-00 P	Modul 4: Individuelle Projektarbeit <i>Blocckurs</i>			24s hrs 22.01. 08-18 05.02. 08-18 05.03. 08-18	HIL E1 HIL E1 HIL E1 <b>A. Tsiavos, B. Stojadinovic</b>

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS in Technology and Public Policy: Impact Analysis

Offered only in Autumn Semester.

## ► Module

Number	Title	Type	ECTS	Hours	Lecturers			
<b>876-0101-00L</b>	<b>Economic Foundations for Policy Analysis</b> <i>Only for CAS in Technology and Public Policy: Impact Analysis</i>	<b>O</b>	<b>3 credits</b>	<b>3G</b>				
876-0101-00 G	Economic Foundations for Policy Analysis			40s hrs	23.08.- 27.08.	09-18	HG E41	<b>T. Schmidt</b> , J.-E. Sturm
<b>876-0201-00L</b>	<b>Technology and Policy Analysis</b> <i>Only for CAS in Technology and Public Policy: Impact Analysis</i>	<b>O</b>	<b>8 credits</b>	<b>5G</b>				
876-0201-00 G	Technology and Policy Analysis			75s hrs	10.09. 11.09.	09-18 09-17	HG E21 HG E21 HG E22 HG E23 HG E23 HG F33.1 HG E23 HG E23 HG E23 HG E23 HG E23 HG E33.1 HG E33.1	<b>T. Schmidt</b> , E. Ash, R. Garrett, I. Günther, L. Kaack, A. Rom, B. Steffen
<b>876-0301-00L</b>	<b>Policy-Making in Practice</b> <i>Only for CAS in Technology and Public Policy: Impact Analysis</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>				
876-0301-00 G	Policy-Making in Practice			46s hrs	07.10. 28.10. 18.11. 19.11. 20.11. 03.12. 04.12.	09-18 09-17 09-18 09-18 09-17 09-18 09-17	HG E23 HG E23 LFW B2 LFW B2 LFW B2 HG E23 HG E23	<b>T. Bernauer</b> , D. N. Bresch, T. Schmidt

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# CAS in Transport Engineering

## ► Module

Number	Title	Type	ECTS	Hours	Lecturers
<b>149-0001-00L</b>	<b>Transport Planning - Theory and Models</b> <b>O</b> <i>Only for CAS/DAS in Transport Engineering and MAS in Future Transport Systems</i>		<b>4 credits</b>	<b>3G</b>	
149-0001-00 G	Verkehr und Verkehrsplanung - Theoretische Ansätze und Modelle <i>Blockkurs</i> <i>Vorlesung: 09:00 - 13:00 Uhr</i> <i>Übungen: 14:00 - 17:00 Uhr</i>			35s hrs 18.10.- 09-17 20.10. 16.12.- 09-17 17.12.	<b>K. W. Axhausen</b> , M. Friedrich
				HIT F11.1 HIT F11.1	
<b>149-0002-00L</b>	<b>Traffic Engineering</b> <b>O</b> <i>Only for CAS/DAS in Transport Engineering and MAS in Future Transport Systems</i>		<b>4 credits</b>	<b>3G</b>	
149-0002-00 G	Verkehrssteuerung <i>Blockkurs</i> <i>Vorlesung: 09:00 - 13:00 Uhr</i> <i>Übungen: 14:00 - 17:00 Uhr</i>			35s hrs 21.10.- 09-17 22.10. 13.12.- 09-17 15.12.	<b>M. Fellendorf</b>
				HIT F11.1 HIT F11.1	

### CAS in Transport Engineering - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

## Chemistry (General Courses)

### ► General Courses

Number	Title	Type	ECTS	Hours				Lecturers	
529-0073-00L	Radiochemistry	Z	2 credits	2V					to be announced
529-0073-00 V	Radiochemie <i>Does not take place this semester.</i>			2 hrs					
529-0499-00L	Physical Chemistry	Z	1 credit	1K				M. Reiher, A. Barnes, G. Jeschke, B. H. Meier, F. Merkt, J. Richardson, R. Riek, S. Riniker, T. Schmidt, R. Signorell, H. J. Wörner	
529-0499-00 K	Physical Chemistry			1 hrs	Tue	16-19	HCI J3		
529-1100-00L	Fragrance Chemistry	Z	1 credit	1V					
529-1100-00 V	Fragrance Chemistry <i>Does not take place this semester.</i>			1 hrs					
529-0688-00L	Safety Lecture for Assistants	Z	0 credits					T. Mäder	
529-0688-00 V	Sicherheitsvorlesung für Assistierende			2s hrs	14.09.	13-18	HCI G3		

### Chemistry (General Courses) - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# Chemistry Bachelor

## ► 1. Semester

### ►► Compulsory Subjects First Year Examinations

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0011-02L</b>	<b>General Chemistry (Inorganic Chemistry) I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
529-0011-02 V	Allgemeine Chemie I (AC)			2 hrs	Tue	08-10	HCI G3	<b>A. Togni</b>
529-0011-02 U	Allgemeine Chemie I (AC) <i>Groups are selected in myStudies. oder nach Vereinbarung</i>			1 hrs	Mon	08-09	HCI D2 HCI H2.1 HCI H8.1 HCI J8 HIT F31.2 HIT H42	<b>A. Togni</b>
						10-11	HCI D4 HCI F2 HIL C10.2 HIT F31.2 HIT H42 HCI H8.1	
					Fri	11-12		
<b>529-0011-03L</b>	<b>General Chemistry (Organic Chemistry) I O</b>		<b>3 credits</b>	<b>2V+1U</b>				
529-0011-03 V	Allgemeine Chemie I (OC)			2 hrs	Fri	08-10	HCI G7	<b>P. Chen</b>
529-0011-03 U	Allgemeine Chemie I (OC) <i>Groups are selected in myStudies. oder nach Vereinbarung</i>			1 hrs	Mon	09-10	HCI D2 HCI J6 HIT F31.2 HIT H42 HIL B21 HIL C10.2 HIT F31.2 HIT H42	<b>P. Chen</b>
						11-12	HIL B21 HIL C10.2 HIT F31.2 HIT H42	
					Tue	13-14	HIT J53	
<b>529-0011-01L</b>	<b>General Chemistry (Physical Chemistry) I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
529-0011-01 V	Allgemeine Chemie I (PC)			2 hrs	Wed	10-12	HG G5	<b>H. J. Wörner</b>
529-0011-01 U	Allgemeine Chemie I (PC) <i>Groups are selected in myStudies.</i>			1 hrs	Thu	12-13	HCI F8 HCI J6 HIT F31.1 HIT J52	<b>H. J. Wörner</b>
						13-14 18-19	HCI F8 HCI D8	
					Fri	10-11	HCI D6 HCI D8 HCI E2 HCI E8 HCI F2 HIL B21 HIL D10.2 HIT K51 HPK D24.2	
						12-13	HCI E2 HCI E8 HCI F2	
					20.09.	13-14	HCP E47.2	
<b>402-0043-00L</b>	<b>Physics I</b>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>				
402-0043-00 V	Physics I (Physik I)			3 hrs	Tue	16-17	HPH G2	<b>J. Home</b>
					Thu	16-18	HPH G2	
402-0043-00 U	Physik I <i>Di 17-18 für Studiengang Rechnergestützte Wissenschaften. Mi 9-10 (oder Di 17-18 als Ausweichtermin) für Studiengänge Chemie bzw. Chemieingenieurwissenschaften sowie Interdisziplinäre Naturwissenschaften. Mi 12-13 für Studiengang Raumbezogene Ingenieurwissenschaften. Do 10-11 für Studiengang Biochemie.</i>			1 hrs	Tue	17-18	HCI D2 HIT F31.1 HIT H51 HIT J51	<b>J. Home</b>
					Wed	09-10	CAB G52 HG E21 HG E22 HG E33.5 HG G26.3 ML H41.1 ML J34.1 ML J34.3 HG D3.2 HCI D6	
					Thu	12-13 10-11		
<b>401-0271-00L</b>	<b>Mathematical Foundations I: Analysis A</b>	<b>O</b>	<b>5 credits</b>	<b>3V+2U</b>				
401-0271-00 V	Grundlagen der Mathematik I (Analysis A)			3 hrs	Tue	10-12	HIL E1	<b>L. Keller</b>
					Wed	08-09	HG E5	
401-0271-00 U	Grundlagen der Mathematik I (Analysis A) <i>Groups are selected in myStudies.</i>			2 hrs	Mon	08-10	HIL E7 HIT J51 HIT K51 HIT K52 HCI F8 HIT J51 HIT K51 HIT K52	<b>L. Keller</b>
						10-12		



<b>529-0001-00L</b>	<b>Introduction to Computer Science</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>					
529-0001-00 V	Informatik I			2 hrs	Thu	08-10	HIL E3	<b>P. H. Hünenberger</b>	
529-0001-00 U	Informatik I			2 hrs	Tue	12-14	HCI D267.4 HIT F21 HCI D267.4 HIT F21	<b>P. H. Hünenberger</b>	
					Thu	10-12	HCI D267.4 HIT F21 HCI D267.4 HIT F21		
					Fri	10-12	HCI D267.4 HIT F21		

## ►► Laboratory Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0011-04L</b>	<b>Practical Course General Chemistry</b> <i>Latest online enrolment is 20.9.2021</i>	<b>O</b>	<b>8 credits</b>	<b>12P</b>					
	<i>Information about the practical course will be given on the first day.</i>								
529-0011-04 P	Allgemeine Chemie (Praktikum) ■ <i>Ferienpraktikum n. V. für Interdisziplinäre Naturwissenschaften kann alternativ nach dem 1. Semester oder während des 1. Semesters besucht werden. Für Phys.-Chem. Richtung prinzipiell auch während des 3. Semesters. Ferienpraktikum n. V. Woche 1-4 8-18 Uhr</i>			12 hrs	Mon Wed Fri	13-18 13-18 13-18	HCI HCI HCI	<b>H. V. Schönberg,</b> E. C. Meister	
					24.09. 27.09. 13.10.	13-16 13-16 13-15	HCI G3 HPH G1 HIL C10.2		

## ► 3. Semester

### ►► Compulsory Subjects Examination Block I

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0121-00L</b>	<b>Inorganic Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
529-0121-00 V	Anorganische Chemie I			2 hrs	Mon	08-10	HCI G3	<b>H. Grützmacher,</b> P. Steinegger	
529-0121-00 U	Anorganische Chemie I			1 hrs	Tue	12-13	HCI D2 HCI D8 HCI E8 HCI F2 HCI F8 HCI J8	<b>H. Grützmacher,</b> P. Steinegger	
<b>529-0221-00L</b>	<b>Organic Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
529-0221-00 V	Organische Chemie I			2 hrs	Wed	12-14	HCI G3	<b>H. Wennemers</b>	
529-0221-00 U	Organische Chemie I <i>Groups are selected in myStudies.</i>			1 hrs	Mon	12-13	HCI D6 HCI E8 HCI F8 HCI H2.1 HCI J8 HCI D8 HCI H2.1 HCI J3 HCI J8	<b>H. Wennemers</b>	
					Tue	08-09			
<b>529-0422-00L</b>	<b>Physical Chemistry II: Chemical Reaction Kinetics</b>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>					
529-0422-00 V	Physikalische Chemie II: Chemische Reaktionskinetik			3 hrs	Tue Fri	09-10 10-12	HCI J3 HCI G3	<b>F. Merkt,</b> U. Hollenstein	
529-0422-00 U	Physikalische Chemie II: Chemische Reaktionskinetik <i>Groups are selected in myStudies.</i>			1 hrs	Mon	08-09	HCI D4 HCI D6 HCI E2 HCP E47.2 HCI D4 HCI D6 HCI E8 HCI F8 HCI D4 HCI D6 HCI E8	<b>F. Merkt,</b> U. Hollenstein	
					Tue	10-11			
						11-12			
<b>529-0051-00L</b>	<b>Analytical Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>					
529-0051-00 G	Analytische Chemie I			3 hrs	Wed Thu	08-10 08-09	HCI G3 HPH G2	<b>D. Günther,</b> M.-O. Ebert, G. Schwarz, R. Zenobi	
<b>401-0373-00L</b>	<b>Mathematics III: Partial Differential Equations</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>					
401-0373-00 V	Mathematics III: Partial Differential Equations			2 hrs	Thu	10-12	HCI J7	<b>A. Carlotto</b>	
401-0373-00 U	Mathematics III: Partial Differential Equations <i>Groups are selected in myStudies.</i>			1 hrs	Thu	09-10	HCI J7 HCP E47.1 HIT H51 HCP E47.2	<b>A. Carlotto</b>	

## ►► Laboratory Courses

Number	Title	Type	ECTS	Hours					Lecturers
--------	-------	------	------	-------	--	--	--	--	-----------

529-0129-00L Inorganic and Organic Chemistry II O 11 credits 16P

Latest online enrolment is one week before the beginning of the semester.

529-0129-00 P	Inorganic and Organic Chemistry II			16 hrs	Mon	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	V. Mougél
					Tue	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	
					Thu	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	
					Fri	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	
					23.09.	17-18	HCI J6	
					24.09.	14-18	HCI G7	

## ► 5. Semester

### ►► Compulsory Subjects Examination Block II

Number	Title	Type	ECTS	Hours				Lecturers
529-0132-00L	Inorganic Chemistry III: Organometallic Chemistry and Homogeneous Catalysis	O	4 credits	3G				
529-0132-00 G	Anorganische Chemie III: Metallorganische Chemie und Homogenkatalyse			3 hrs	Thu Fri	14-15 10-12	HCI J4 HCI J4	C. Copéret, A. Togni
529-0231-00L	Organic Chemistry III: Introduction to Asymmetric Synthesis	O	4 credits	3G				
529-0231-00 G	Organic Chemistry III: Introduction to Asymmetric Synthesis			3 hrs	Wed	08-11	HCI D4 HCI D6 HCI E2 HCI F2 HCI F8 HCI J7 HCI J8	E. M. Carreira
529-0432-00L	Physical Chemistry IV: Magnetic Resonance	O	4 credits	3G				
529-0432-00 G	Physikalische Chemie IV: Magnetische Resonanz <i>Vorlesung: Fr 8-10</i> <i>Übungen: Di 9-10</i>			3 hrs	Tue	09-10	HCI D4 HCI D6 HCI E8 HCI J8 HCP E47.3 HIT F31.1 HIT F31.2	G. Jeschke, M. Ernst
					Fri	08-10	HCI J6	

### ►► Laboratory Courses

Number	Title	Type	ECTS	Hours				Lecturers
529-0449-00L	Spectroscopy	O	13 credits	13P				
529-0449-00 P	Spektroskopie			13 hrs	Mon Tue Wed Thu Fri 22.09.	14-18 14-18 14-18 14-18 14-18 14-15	HCI HCI HCI HCI HCI HCP E47.3	E. C. Meister, B. Hattendorf

## ► Electives

Students are free to choose from a range of D-CHAB chemistry courses appropriate to their level of study (please note admission requirements). In case of doubt, contact the student administration.

### ►► Inorganic Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0141-00L	Physical Methods for Inorganic Chemistry	W	6 credits	3G				
529-0141-00 G	Physikalische Methoden der Anorganischen Chemie			3 hrs	Mon	12-14	HCI H8.1	M. D. Würle, D. Günther, J. Koch, R. Verel

### ►► Physical Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0441-00L	Signal Processing	W	6 credits	3G				

529-0441-00 G	Messtechnik <i>Vorlesung: Di 12-14</i> <i>Übungen: Do 8-9/ 9-10</i>	3 hrs	Tue Thu	12-14 08-09 09-10	HCI E2 HCI F2 HCI F2	<b>G. Jeschke, M. Yulikov</b>
---------------	---------------------------------------------------------------------------	-------	------------	-------------------------	----------------------------	-------------------------------

## ►► Analytical Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0041-00L	Modern Mass Spectrometry, Hyphenated W Methods, and Chemometrics		6 credits	3G				
529-0041-00 G	Moderne Massenspektroskopie, gekoppelte Analysenmethoden, Chemometrie			3 hrs	Mon Wed	10-12 12-13	HCI H2.1 HCI H2.1	R. Zenobi, B. Hattendorf, P. Sinués Martinez-Lozano

## ►► Biological Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0731-00L	<b>Nucleic Acids and Carbohydrates</b> <i>Note for BSc Biology students: Only one of the two concept courses 529-0731-00 Nucleic Acids and Carbohydrates (autumn semester) or 529-0732-00 Proteins and Lipids (spring semester) can be counted for the Bachelor's degree.</i>	W	6 credits	3G				
529-0731-00 G	Nucleic Acids and Carbohydrates <i>Lecture 2 hours on Tue 9:45-11:30.</i> <i>Exercises: 1 hour according to agreement, presumably Tue 7:45-8:30 or 8:45-9:30. Exercises will start in the second week of semester.</i>			3 hrs	Tue	08-09 09-10 10-12	HCI D2 HCI D2 HCI J3	D. Hilvert, P. A. Kast, S. J. Sturla, H. Wennemers
529-0240-00L	<b>Chemical Biology - Peptides</b>	W	6 credits	3G				
529-0240-00 G	Chemical Biology - Peptides <i>Lecture: 2 hours, 8:45 - 10:30 on Thursday</i> <i>Exercise: 1 hour, 7:45 - 8:30 or 10:45 - 11:30 (immediately after the lecture) on Thursday. Exercises start in the second week.</i>			3 hrs	Thu	08-09 09-11 11-12 23.09. 09-11	HCI J4 HCI J4 HCI J4 HIL E8	H. Wennemers

## ►► Chemical Aspects of Energy

Number	Title	Type	ECTS	Hours				Lecturers
529-0659-00L	Electrochemistry: Fundamentals, Cells & Applications	W	6 credits	3G				
529-0659-00 G	Electrochemistry: Fundamentals, Cells & Applications			3 hrs	Mon	09-12	HPT C103	L. Gubler

## ►► Chemical Crystallography

Number	Title	Type	ECTS	Hours				Lecturers
529-0039-00L	Principles of Crystal Structure Determination	W	6 credits	3G				
529-0039-00 G	Grundlagen der Kristallstrukturanalyse <i>Lehrsprache: Deutsch und Englisch</i>			3 hrs	Tue Thu	12-14 13-14	HCP E47.2 HCI D8	M. D. Wörle, N. Trapp

## ►► Computational Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0002-00L	Algorithms and Programming in C++	W	6 credits	3G				
529-0002-00 G	Algorithmen und Programmentwicklung in C++ <i>nach Bedarf in Englisch</i>			3 hrs	Wed Thu	14-16 12-13	HCI J6 HCI D267.4	S. Riniker, G. Landrum

## ►► Materials Science

*Offered during Spring Semester.*

## ►► Environmental Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0037-01L	Introduction to Environmental Chemistry and Ecotoxicology	W	4 credits	3G				
529-0037-01 G	Grundlagen der Umweltchemie und Ökotoxikologie			3 hrs	Thu	09-12	HPK D3	J. Hollender, T. Hofstetter, C. S. McArdell
701-1233-00L	Stratospheric Chemistry	W	4 credits	2V+1U				
701-1233-00 V	Stratospheric Chemistry			2 hrs	Thu	14-16	CHN F42	T. Peter, G. Chiodo
701-1233-00 U	Stratospheric Chemistry <i>Exercises start in the second week of the semester.</i>			1 hrs	Thu	13-14	CHN F42	T. Peter, G. Chiodo

## ►► Economics

Number	Title	Type	ECTS	Hours					Lecturers
351-0778-00L	<b>Discovering Management</b> <i>Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercrcises) 351-0778-01.</i>	W	3 credits	3G					
351-0778-00 G	Discovering Management <i>Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten.</i> <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Fri	08-11	HG E1.1	<b>B. Clarysse</b> , S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe	

► GESS Science in Perspective

►► Science in Perspective

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-CHAB.

►► Language Courses

see GESS Science in Perspective:  
Language Courses ETH/UZH

**Chemistry Bachelor - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Chemistry Teaching Diploma

Further information at: <https://www.ethz.ch/de/studium/didaktische-ausbildung/studienangebot-zulassung/lehrdiplom-fuer-maturitaetsschulen.html>

## ► Educational Science

Course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma".

Number	Title	Type	ECTS	Hours	Lecturers		
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S			
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1 <b>R. Schumacher</b>
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S			
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40 <b>E. Stern</b>
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S			
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1 <b>P. Edelsbrunner, T. Braas, C. M. Thurn</b>
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S			
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114 <b>M. Berkowitz Biran, T. Braas, C. M. Thurn</b>
see Educational Science Teaching Diploma							

## ► Subject Didactics in Chemistry

Important Notice: Enrolment in the courses of this category is only possible if no more than 12 CP of potential additional requirements have to be acquired.

Number	Title	Type	ECTS	Hours	Lecturers		
529-0959-00L	<b>Mentored Work Subject Didactics Chemistry A</b>	O	2 credits	4A			
529-0959-00 A	Mentorierte Arbeit Fachdidaktik Chemie A für Lehrdiplom ■			60s hrs	by appt.		<b>R. Ciorciaro</b>
529-0960-00L	<b>Mentored Work Subject Didactics Chemistry B</b>	O	2 credits	4A			
529-0960-00 A	Mentorierte Arbeit Fachdidaktik Chemie B Lehrdiplom ■			60s hrs	by appt.		<b>R. Ciorciaro</b>
529-0950-00L	<b>Subject Didactics Chemistry I</b> <i>Simultaneous enrolment in Introductory Internship Chemistry - course 529-0966-00L - is compulsory.</i>	O	4 credits	3G			

## ► Professional Training in Chemistry

*Important Notice: Enrolment in the courses of this category is only possible if no more than 12 CP of potential additional requirements have to be acquired.*

Number	Title	Type	ECTS	Hours	Lecturers
529-0966-00L	<b>Introductory Internship Chemistry</b> <i>Simultaneous enrolment in Subject Didactics Chemistry I - course 529-0950-00L - is compulsory.</i>	O	3 credits	6P	
529-0966-00 P	Einführungspraktikum Chemie ■ <i>Zuteilung zu den Praktikumslehrpersonen über den Fachdidaktiker Chemie.</i>			90s hrs by appt.	A. Baertsch
529-0964-00L	<b>Teaching Internship Chemistry</b>	O	8 credits	17P	
529-0964-00 P	Unterrichtspraktikum Chemie Lehrdiplom ■ <i>Das Unterrichtspraktikum findet am Gymnasium der Praktikumslehrperson statt.</i>  <i>Bitte melden Sie sich mindestens 7 Monate vor Beginn beim Fachdidaktiker amadeus.baertsch@kfr.ch</i>			240s hrs by appt.	A. Baertsch
529-0955-00L	<b>Professional Exercises: Experiments in Teaching Chemistry</b>	O	2 credits	4V	
529-0955-00 V	Berufspraktische Übungen: Das Experiment im Chemie-Unterricht ■ <i>Der Kurs findet als Blockveranstaltung, jeweils 9 bis 17 Uhr statt.</i>  <i>Ort: Zimmer 27, Kantonsschule Freudenberg, Gutenbergstr. 15, 8002 Zürich</i> <i>Lageplan: <a href="http://fdchemie.pbworks.com/w/page/45801830/Übersicht%20und%20Organisation">http://fdchemie.pbworks.com/w/page/45801830/Übersicht%20und%20Organisation</a></i>  <i>Für die Erteilung der Kreditpunkte müssen Studierende zwingend den ganzen Kurs über anwesend sein.</i>			60s hrs 23.10. 09-17 30.10. 09-17 06.11. 09-17 20.11. 09-17 Ex tern Ex tern Ex tern Ex tern	A. Baertsch
529-0968-01L	<b>Examination Lesson I Chemistry</b> <i>Simultaneous enrolment in "Examination Lesson II Chemistry" (529-0968-02L) is compulsory.</i>  <i>Will mark the conclusion of the teacher training program in Chemistry.</i>	O	1 credit	2P	
529-0968-01 P	Prüfungslektion untere Stufe Chemie ■ <i>Permission from lecturers required for all students</i> <i>Der Termin muss mindestens 2 Monate im voraus mit dem Fachdidaktiker vereinbart werden: amadeus.baertsch@kfr.ch</i>			30s hrs by appt.	A. Baertsch
529-0968-02L	<b>Examination Lesson II Chemistry</b> <i>Simultaneous enrolment in "Examination Lesson I Chemistry" (529-0968-01L) is compulsory.</i>  <i>Will mark the conclusion of the teacher training program in Chemistry.</i>	O	1 credit	2P	
529-0968-02 P	Prüfungslektion obere Stufe Chemie ■ <i>Permission from lecturers required for all students</i> <i>Der Termin muss mindestens 2 Monate im voraus mit dem Fachdidaktiker vereinbart werden: amadeus.baertsch@kfr.ch</i>			30s hrs by appt.	A. Baertsch

## ► Spec. Courses in Resp. Subj. w/ Educ. Focus & Further Subj. Didactics

Number	Title	Type	ECTS	Hours	Lecturers
529-0962-00L	<b>Fundamental Aspects of Chemistry with an Educational Focus B</b> <i>Mentored Work with an Educational Focus Chemistry B for Teaching Diploma.</i>  <i>Information for UZH students:</i> <i>Enrolment to this course unit only possible at ETH. No enrolment to module CHE406 at UZH.</i> <i>Examination Registration only at ETH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students:</i> <i><a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	O	4 credits	2V	
529-0962-00 V	Vertiefte Grundlagen der Chemie B für Lehrdiplom <i>**gemeinsam mit der Universität Zürich**</i>			2 hrs Wed 18-20 HCI D8	A. Togni, R. Alberto

529-0962-01L	<b>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus Chemistry B</b>	O	2 credits	4A	
529-0962-01 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädagogischem Fokus Chemie B Lehrdiplom ■		60s hrs	by appt.	R. Ciorciaro

## ► Compulsory Elective Courses

see *Compulsory Elective Courses Teaching Diploma*

### Chemistry Teaching Diploma - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Chemistry Master

## ► Core Subjects

### ►► Inorganic Chemistry

*Offered during spring semester*

### ►► Organic Chemistry

Number	Title	Type	ECTS	Hours	Lecturers			
<b>529-0233-01L</b>	<b>Organic Synthesis: Methods and Strategies</b>	<b>W+</b>	<b>6 credits</b>	<b>3G</b>				
529-0233-01 G	Organic Synthesis: Methods and Strategies <i>Attendance of the accompanying exercise sessions is strongly recommended.</i>			3 hrs	Wed	13-16 14-16	HCI J3 HCI H8.1 HCI J343	<b>E. M. Carreira</b>
<b>529-0241-10L</b>	<b>Advanced Methods and Strategies in Synthesis</b>	<b>W+</b>	<b>6 credits</b>	<b>3G</b>				
529-0241-10 G	Advanced Methods and Strategies in Synthesis <i>Lecture: 13–15 Exercises: 15–16</i>			3 hrs	Mon	13-15 15-16	HCI J4 HCI J4 HIT J51 HIT J52 HIL E3 HIL E3	<b>J. W. Bode</b>
					27.09. 01.11.	13-16 13-16		

### ►► Physical Chemistry

Number	Title	Type	ECTS	Hours	Lecturers			
<b>529-0433-01L</b>	<b>Advanced Physical Chemistry: Statistical Thermodynamics</b>	<b>W+</b>	<b>6 credits</b>	<b>3G</b>				
529-0433-01 G	Advanced Physical Chemistry: Statistical Thermodynamics <i>Vorlesung: Mo 8-10 Übungen Di 8-9 oder Di 10-11</i>			3 hrs	Mon Tue	08-10 08-09	HCI J4 HCI D4 HCI D6 HCI E2 HCI E8 HCI F2 HCI J4 HCI F2 HCI E8 HCI F2 HCI F8 HCP E47.1 HCP E47.3	<b>R. Riek, J. Richardson</b>
					11.10.	10-11 08-10		

### ► Research Projects

Number	Title	Type	ECTS	Hours	Lecturers			
<b>529-0200-10L</b>	<b>Research Project I</b>	<b>W</b>	<b>13 credits</b>	<b>16A</b>				
529-0200-10 A	Research Project I <i>Usually taken in spring during 6. Semester. Duration 7 weeks</i>			16 hrs	Supervisors			
<b>529-0201-10L</b>	<b>Research Project II</b>	<b>W</b>	<b>13 credits</b>	<b>16A</b>				
529-0201-10 A	Research Project II <i>Duration 7 weeks</i>			16 hrs	by appt.	Supervisors		

### ► Industry Internship or Laboratory Course

Number	Title	Type	ECTS	Hours	Lecturers			
<b>529-0202-00L</b>	<b>Industry Internship</b>	<b>W</b>	<b>13 credits</b>					
529-0202-00 A	Industry Internship <i>min. 7 weeks</i>				Supervisors			
<b>529-0739-10L</b>	<b>Biological Chemistry A: Technologies for Directed Evolution of Enzymes</b> <i>Advanced laboratory course or internship depending on lab course Biological Chemistry B</i>	<b>W</b>	<b>13 credits</b>	<b>16P</b>				
	<i>Candidates must inquire with P. Kast no later than September 1st whether course will take place (no self-enrollment)</i>							
	<i>Further information to registration and work hours: <a href="http://www.kast.ethz.ch/teaching.html">www.kast.ethz.ch/teaching.html</a></i>							
529-0739-10 P	Biological Chemistry A: Technologies for Directed Evolution of Enzymes ■ <i>Permission from lecturers required for all students</i>			16 hrs	by appt.	<b>P. A. Kast</b>		

### ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers			
<b>529-0500-10L</b>	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their Master's thesis: a. successful completion of the Bachelor's</i>	<b>O</b>	<b>25 credits</b>	<b>54D</b>				



programme;  
b. fulfilling of any additional requirements  
necessary to gain admission to the Master's  
programme.

Duration of the Master's Thesis 20 weeks.

529-0500-10 D Master's Thesis ■

750s hrs

Supervisors

## ► Electives

Students are free to choose from a range of D-CHAB chemistry courses appropriate to their level of study (please note admission requirements). In case of doubt, contact the student administration.

## ►► Inorganic Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0143-01L	<b>Aspects of Modern Inorganic Chemistry: W Concepts, Building Blocks, and Polymers</b>		<b>6 credits</b>	<b>3G</b>				
529-0143-01 G	Aspects of Modern Inorganic Chemistry: Concepts, Building Blocks, and Polymers			3 hrs	Thu Fri	12-13 10-12	HCI H2.1 HCI H2.1	<b>H. Grützmacher,</b> J. Grützmacher

## ►► Organic Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0243-01L	<b>Transition Metal Catalysis: From Mechanisms to Applications</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0243-01 G	Transition Metal Catalysis: From Mechanisms to Applications			3 hrs	Fri	09-12	HCI D2	<b>B. Morandi</b>
529-0233-01L	<b>Organic Synthesis: Methods and Strategies</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0233-01 G	Organic Synthesis: Methods and Strategies <i>Attendance of the accompanying exercise sessions is strongly recommended.</i>			3 hrs	Wed	13-16 14-16	HCI J3 HCI H8.1 HCI J343	<b>E. M. Carreira</b>
529-0241-10L	<b>Advanced Methods and Strategies in Synthesis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0241-10 G	Advanced Methods and Strategies in Synthesis <i>Lecture: 13–15 Exercises: 15–16</i>			3 hrs	Mon	13-15 15-16	HCI J4 HCI J4 HIT J51 HIT J52 HIL E3 HIL E3	<b>J. W. Bode</b>

## ►► Physical Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0433-01L	<b>Advanced Physical Chemistry: Statistical Thermodynamics</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0433-01 G	Advanced Physical Chemistry: Statistical Thermodynamics <i>Vorlesung: Mo 8-10 Übungen Di 8-9 oder Di 10-11</i>			3 hrs	Mon Tue	08-10 08-09	HCI J4 HCI D4 HCI D6 HCI E2 HCI E8 HCI F2 HCI J4 HCI F2 HCI E8 HCI F2 HCI F8 HCP E47.1 HCP E47.3	<b>R. Riek,</b> J. Richardson
529-0443-01L	<b>Advanced Magnetic Resonance</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0443-01 G	Advanced Magnetic Resonance			3 hrs	Wed	10-13	HCI J3	<b>G. Jeschke,</b> A. Barnes
529-0445-01L	<b>Advanced Optics and Spectroscopy</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0445-01 G	Advanced Optics and Spectroscopy <i>Lecture: Do 14-16 Exercises: Do 16-17</i>			3 hrs	Thu	14-16 16-17	HCI H2.1 HCI F8 HCI H2.1	<b>R. Signorell,</b> G. David

## ►► Analytical Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0043-01L	<b>Analytical Strategy</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0043-01 G	Analytical Strategy			3 hrs	Tue Thu	10-12 12-13	HCI H2.1 HCI D2	<b>R. Zenobi,</b> K. Eyer, S. Giannoukos, D. Günther
529-0049-00L	<b>Analytical Methods for Characterization of Nanoparticles and Nanomaterials</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
529-0049-00 G	Analytical Methods for Characterization of Nanoparticles and Nanomaterials <i>Does not take place this semester.</i>			2 hrs				to be announced

## ►► Biological Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
--------	-------	------	------	-------	--	--	--	-----------

<b>529-0733-01L</b>	<b>Enzymes</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0733-01 G	Enzymes <i>Lecture 2 hours on Monday, 09:45 - 11:30. 1 hour exercise Monday or Tuesday from second week on - according to agreement.</i>			3 hrs	Mon	09-10	HCI H8.1	<b>D. Hilvert</b>	
					Tue	10-12 12-13	HCI J6 HCI H2.1		
<b>►► Chemical Aspects of Energy</b>									
<b>151-0209-00L</b>	<b>Renewable Energy Technologies</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0209-00 G	Renewable Energy Technologies <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue	14-17	HG G5	<b>A. Steinfeld, E. I. M. Casati</b>	
<b>►► Chemical Crystallography</b>									
<b>529-0029-01L</b>	<b>Structure Determination</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0029-01 G	Structure Determination			3 hrs	Thu	09-12	HCP E47.3	<b>M. D. Wörle, N. Trapp</b>	
<b>►► Chemical Technology</b>									
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2). Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2	<b>M. Fussenegger</b>	
<b>►► Computational Chemistry</b>									
<b>529-0003-01L</b>	<b>Advanced Quantum Chemistry</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0003-01 G	Advanced Quantum Chemistry <i>Lecture Tue 12:00-14:00, Exercise Classes Thursday 10:00-11:00 Vorlesung Di 12-14 Uhr, Uebung Do 10-11 Uhr</i>			3 hrs	Tue Thu	12-14 10-11	HCI J4 HCI F8	<b>M. Reiher, A. Baiardi</b>	
<b>529-0004-01L</b>	<b>Classical Simulation of (Bio)Molecular Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
529-0004-01 G	Classical Simulation of (Bio)Molecular Systems <i>2 hr lecture + 2 hr exercise session in our computer room; the students can choose between two alternative exercise sessions, either on Tuesdays 7:30-9:30 a.m. or on Thursdays 7:45-9:45 a.m.; the course was previously named CSCBP (the content remains the same, but the new title is more adequate)</i>			4 hrs	Tue	10-12	HCI D2	<b>P. H. Hünenberger, J. Dolenc, S. Riniker</b>	
<b>►► Material Science</b>									
<b>327-0703-00L</b>	<b>Electron Microscopy in Material Science</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
327-0703-00 V	Electron Microscopy in Material Science			2 hrs	Fri	08-10	HCI H2.1	<b>K. Kunze, R. Erni, S. Gerstl, F. Gramm, A. Käch, F. Krumeich, M. Willinger</b>	
327-0703-00 U	Electron Microscopy in Material Science			2 hrs	Fri	12-14	HCI H2.1	<b>K. Kunze, R. Erni, S. Gerstl, F. Gramm, A. Käch, F. Krumeich, M. Willinger</b>	
<b>►► Environmental Chemistry</b>									
<b>529-0745-01L</b>	<b>General and Environmental Toxicology</b>	<b>W</b>	<b>6 credits</b>	<b>3V</b>					
529-0745-01 V	General and Environmental Toxicology <i>Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from the campus.</i>			3 hrs	Fri	09-12	HCI J8	<b>M. Arand, H. Nägeli</b>	
<b>►► Economics and Technology Management</b>									
<b>363-0389-00L</b>	<b>Technology and Innovation Management</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0389-00 G	Technology and Innovation Management <i>The lecture takes place in classroom, online via zoom and recorded.</i>			2 hrs	Mon	14-16 27.09.	NO C60 HG D1.2	<b>S. Brusoni, A. Zeijen</b>	
<b>363-0565-00L</b>	<b>Principles of Macroeconomics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
363-0565-00 V	Principles of Macroeconomics <i>Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Tue	16-18	ETA F5 ETF E1	<b>J.-E. Sturm</b>	
<b>363-0503-00L</b>	<b>Principles of Microeconomics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>GESS (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L Einführung in die Mikroökonomie.</i>								

363-0503-00 G Principles of Microeconomics 2 hrs Thu 18-20 HG F7 M. Filippini  
*The lecture takes place in classroom, online via livestreaming or zoom and recorded.*

## ► Compensatory courses

### ►► Inorganic Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0143-01L	<b>Aspects of Modern Inorganic Chemistry: W+ Concepts, Building Blocks, and Polymers</b>	W+	6 credits	3G				
529-0143-01 G	Aspects of Modern Inorganic Chemistry: Concepts, Building Blocks, and Polymers			3 hrs	Thu Fri	12-13 10-12	HCI H2.1 HCI H2.1	H. Grützmacher, J. Grützmacher

### ►► Physical Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0443-01L	<b>Advanced Magnetic Resonance</b>	W+	6 credits	3G				
529-0443-01 G	Advanced Magnetic Resonance			3 hrs	Wed	10-13	HCI J3	G. Jeschke, A. Barnes
529-0445-01L	<b>Advanced Optics and Spectroscopy</b>	W	6 credits	3G				
529-0445-01 G	Advanced Optics and Spectroscopy <i>Lecture: Do 14-16</i> <i>Exercises: Do 16-17</i>			3 hrs	Thu	14-16 16-17	HCI H2.1 HCI F8 HCI H2.1	R. Signorell, G. David

## ► GESS Science in Perspective

*see GESS Science in Perspective:  
Language Courses ETH/UZH*

*see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended GESS Science in  
Perspective (Type B) for D-CHAB.*

## ► Course Units for Additional Admission Requirements

*The courses below are only available for MSc students with additional admission requirements.*

Number	Title	Type	ECTS	Hours				Lecturers
529-0051-AAL	<b>Analytical Chemistry I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>  <i>The underlying lecture (529-0051-00L) is offered in autumn semester but only in German.</i>	E-	3 credits	6R				
529-0051-AA R	Analytical Chemistry I <i>Self-study course. No presence required.</i>			90s hrs				D. Günther, R. Zenobi
529-0058-AAL	<b>Analytical Chemistry II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>  <i>This course does not offer a lecture of its own but it is linked to the course 529-0058-00L.</i>	E-	3 credits	6R				
529-0058-AA R	Analytical Chemistry II <i>Self-study course. No presence required.</i>			90s hrs				D. Günther, M.-O. Ebert, G. Schwarz, R. Zenobi
529-0132-AAL	<b>Inorganic Chemistry III: Organometallic Chemistry and Homogeneous Catalysis</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>  <i>This course does not offer a lecture of its own but it is linked to the course 529-0132-00L.</i>	E-	4 credits	9R				
529-0132-AA R	Inorganic Chemistry III: Organometallic Chemistry and Homogeneous Catalysis <i>Self-study course. No presence required.</i>			120s hrs				C. Copéret, A. Togni
529-0431-AAL	<b>Physical Chemistry III: Molecular</b>	E-	4 credits	9R				

**Quantum Mechanics**

Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

This course does not offer a lecture of its own but it is linked to the course 529-0431-00L.

529-0431-AA R Physical Chemistry III: Molecular Quantum Mechanics 120s hrs **F. Merkt**  
Self-study course. No presence required.

**529-0432-AAL Physical Chemistry IV: Magnetic Resonance E- 4 credits 9R**

Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

529-0432-AA R Physical Chemistry IV: Magnetic Resonance 120s hrs **G. Jeschke, M. Ernst**  
Self-study course. No presence required.

**529-0129-AAL Inorganic and Organic Chemistry II E- 11 credits 16R**

Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

This course does not offer a lecture of its own but it is linked to the course 529-0129-00L.

529-0129-AA R Inorganic and Organic Chemistry II 16 hrs **V. Mougel**

**551-0103-AAL Fundamentals of Biology II: Cell Biology E- 5 credits 11R**

Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

551-0103-AA R Fundamentals of Biology II: Cell Biology 150s hrs **U. Kutay, Y. Barral, G. Schertler, U. Suter, S. Werner**  
Self-study course. No presence required.

**Chemistry Master - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Chemical and Bioengineering Master

## ► Core Subjects

### ►► Biochemical Engineering

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0837-01L</b>	<b>Biomicrofluidic Engineering</b> <i>Number of participants limited to 25.</i>	<b>W+</b>	<b>6 credits</b>	<b>3G</b>				
529-0837-01 G	Biomicrofluidic Engineering			3 hrs	Mon Tue	16-18 12-13	HCI H8.1 HCI J7	<b>A. de Mello</b>
<b>529-0615-01L</b>	<b>Biochemical and Polymer Reaction Engineering</b>	<b>W+</b>	<b>6 credits</b>	<b>3G</b>				
529-0615-01 G	Biochemical and Polymer Reaction Engineering			3 hrs	Tue Wed	14-16 12-13	HCI J4 HCI J6	<b>P. Arosio</b>

### ►► Products and Materials

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0619-01L</b>	<b>Chemical Product Design</b> <i>Prerequisites: Basic chemistry and chemical engineering knowledge (Diffusion, Thermodynamics, Kinetics,...).</i>	<b>W+</b>	<b>6 credits</b>	<b>3G</b>				
529-0619-01 G	Chemical Product Design <i>Lecture: Thursday Exercise: Monday</i>			3 hrs	Mon Thu	15-16 10-12	HPZ F31.1 HCI J3	<b>W. J. Stark</b>

### ►► Process Design

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0643-01L</b>	<b>Process Design and Development</b>	<b>W+</b>	<b>6 credits</b>	<b>3G</b>				
529-0643-01 G	Process Design and Development			3 hrs	Tue Wed	10-12 13-14	HCI D8 HCI H2.1	<b>G. Guillén Gosálbez</b>
<b>529-0613-01L</b>	<b>Process Simulation and Flowsheeting</b>	<b>W+</b>	<b>6 credits</b>	<b>3G</b>				
529-0613-01 G	Process Simulation and Flowsheeting <i>The module combines theory-based lectures (Mondays) with practical lectures based on Aspen (Wednesdays)</i>			3 hrs	Mon Wed	10-13 14-18	HCI J4 HCI G174	<b>G. Guillén Gosálbez</b>

### ►► Catalysis and Separation

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0927-00L</b>	<b>Rate-Controlled Separations in Fine Chemistry</b>	<b>W+</b>	<b>6 credits</b>	<b>3V+1U</b>				
151-0927-00 V	Rate-Controlled Separations in Fine Chemistry <i>The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.</i>			3 hrs	Thu	11-14	ML F34	<b>M. Mazzotti, V. Becattini</b>
151-0927-00 U	Rate-Controlled Separations in Fine Chemistry <i>The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.</i>			1 hrs	Thu	14-15	ML F34	<b>M. Mazzotti, V. Becattini</b>
<b>529-0617-01L</b>	<b>Catalysis Engineering</b>	<b>W+</b>	<b>6 credits</b>	<b>3G</b>				
529-0617-01 G	Catalysis Engineering			3 hrs	Mon Thu	09-10 16-18	HCI J3 HCP E47.1	<b>J. Pérez-Ramírez, S. J. Mitchell</b>

### ► Case Study

Number	Title	Type	ECTS	Hours	Lecturers
529-0459-01L	Case Studies in Process Design	O	3 credits	3A	G. Guillén Gosálbez
529-0459-01 A	Case Studies in Process Design			42s hrs	
	<i>This course does not take place on a weekly basis. Instead, a case study is carried out by the students in a specific "case study week", from 1-4 November 2021 (HCI G174)</i>				

### ► Research Project or Industry Internship

Number	Title	Type	ECTS	Hours		Lecturers
529-0300-10L	Research Project	W	13 credits	16A		
529-0300-10 A	Research Project <i>Duration 7 weeks</i>			16 hrs	by appt.	Supervisors
529-0301-00L	Industry Internship	W	13 credits			
529-0301-00 A	Industry Internship <i>min. 7 weeks</i>				by appt.	Supervisors

### ► Master's Thesis

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0600-10L</b>	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their Master's thesis: a. successful completion of the Bachelor's programme;</i>	<b>O</b>	<b>25 credits</b>	<b>54D</b>				

b. fulfilling of any additional requirements necessary to gain admission to the Master's programme.

Duration of the Master's Thesis 20 weeks.

529-0600-10 D Master's Thesis ■

750s hrs

Supervisors

## ► Electives

### ►► Biochemical Engineering

Number	Title	Type	ECTS	Hours					Lecturers
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2). Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2		<b>M. Fussenegger</b>
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>					
636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>			3 hrs	Wed	14-17	HG D3.2		<b>J. Stelling</b>
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>			2 hrs	Fri	10-12	HG D1.2		<b>J. Stelling</b>
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3		<b>K. Maniura, M. Rottmar, M. Zenobi-Wong</b>
<b>529-0615-01L</b>	<b>Biochemical and Polymer Reaction Engineering</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0615-01 G	Biochemical and Polymer Reaction Engineering			3 hrs	Tue Wed	14-16 12-13	HCI J4 HCI J6		<b>P. Arosio</b>
<b>529-0837-01L</b>	<b>Biomicrofluidic Engineering</b> <i>Number of participants limited to 25.</i>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0837-01 G	Biomicrofluidic Engineering			3 hrs	Mon Tue	16-18 12-13	HCI H8.1 HCI J7		<b>A. de Mello</b>

### ►► Environment and Energy

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0209-00L</b>	<b>Renewable Energy Technologies</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0209-00 G	Renewable Energy Technologies <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue	14-17	HG G5		<b>A. Steinfeld, E. I. M. Casati</b>
<b>529-0659-00L</b>	<b>Electrochemistry: Fundamentals, Cells &amp; Applications</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0659-00 G	Electrochemistry: Fundamentals, Cells & Applications			3 hrs	Mon	09-12	HPT C103		<b>L. Gubler</b>
<b>529-0745-01L</b>	<b>General and Environmental Toxicology</b>	<b>W</b>	<b>6 credits</b>	<b>3V</b>					
529-0745-01 V	General and Environmental Toxicology <i>Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from the campus.</i>			3 hrs	Fri	09-12	HCI J8		<b>M. Arand, H. Nägeli</b>

### ►► Systems and Process Engineering

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0109-00L</b>	<b>Turbulent Flows</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0109-00 V	Turbulent Flows			2 hrs	Thu	08-10	ML E12		<b>P. Jenny</b>
151-0109-00 U	Turbulent Flows			1 hrs	Thu	13-14	HG D7.1		<b>P. Jenny</b>
<b>529-0611-01L</b>	<b>Molecular Aspects of Catalysts and Surfaces</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
529-0611-01 G	Molecular Aspects of Catalysts and Surfaces <i>In addition to the lecture, there will be an laboratory exercise class on some Mondays from 10-11. Students will be informed at the beginning of the semester.</i>			4 hrs	Tue Wed	16-18 10-12	HCI H2.1 HCI D8		<b>J. A. van Bokhoven, D. Ferri</b>

### ►► Modeling and Simulations

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0004-01L</b>	<b>Classical Simulation of (Bio)Molecular Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					

529-0004-01	G	Classical Simulation of (Bio)Molecular Systems 2 hr lecture + 2 hr exercise session in our computer room; the students can choose between two alternative exercise sessions, either on Tuesdays 7:30-9:30 a.m. or on Thursdays 7:45-9:45 a.m.; the course was previously named CSCBP (the content remains the same, but the new title is more adequate)	4 hrs	Tue	10-12	HCI D2	P. H. Hünenberger, J. Dolenc, S. Riniker	
327-0508-00L		<b>Simulation Techniques in Materials Science</b> Offered for the last time in HS 2021.	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>			
327-0508-00	V	Simulationstechniken in der Materialwissenschaft		2 hrs	Mon	14-16	HCI D2	C. Ederer
327-0508-00	U	Simulationstechniken in der Materialwissenschaft		2 hrs	Mon	16-18	HCI G3	C. Ederer
					27.09.	16-18	HCI D2	
►► Economics and Technology Management								
Number	Title		Type	ECTS	Hours			Lecturers
363-0389-00L	<b>Technology and Innovation Management</b>		<b>W</b>	<b>3 credits</b>	<b>2G</b>			
363-0389-00	G	Technology and Innovation Management The lecture takes place in classroom, online via zoom and recorded.			2 hrs	Mon	14-16	S. Brusoni, A. Zeijen
						27.09.	14-16	
							NO C60	
							HG D1.2	
363-0565-00L	<b>Principles of Macroeconomics</b>		<b>W</b>	<b>3 credits</b>	<b>2V</b>			
363-0565-00	V	Principles of Macroeconomics Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.			2 hrs	Tue	16-18	J.-E. Sturm
							ETA F5	
							ETF E1	
363-0503-00L	<b>Principles of Microeconomics</b> GESS (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L Einführung in die Mikroökonomie.		<b>W</b>	<b>3 credits</b>	<b>2G</b>			
363-0503-00	G	Principles of Microeconomics The lecture takes place in classroom, online via livestreaming or zoom and recorded.			2 hrs	Thu	18-20	M. Filippini
							HG F7	
►► Products and Materials								
Number	Title		Type	ECTS	Hours			Lecturers
529-0619-01L	<b>Chemical Product Design</b> Prerequisites: Basic chemistry and chemical engineering knowledge (Diffusion, Thermodynamics, Kinetics,...).		<b>W</b>	<b>6 credits</b>	<b>3G</b>			
529-0619-01	G	Chemical Product Design Lecture: Thursday Exercise: Monday			3 hrs	Mon	15-16	W. J. Stark
						Thu	10-12	
							HPZ F31.1	
							HCI J3	
►► Process Design								
Number	Title		Type	ECTS	Hours			Lecturers
529-0643-01L	<b>Process Design and Development</b>		<b>W</b>	<b>6 credits</b>	<b>3G</b>			
529-0643-01	G	Process Design and Development			3 hrs	Tue	10-12	G. Guillén Gosálbez
						Wed	13-14	
							HCI D8	
							HCI H2.1	
529-0613-01L	<b>Process Simulation and Flowsheeting</b>		<b>W</b>	<b>6 credits</b>	<b>3G</b>			
529-0613-01	G	Process Simulation and Flowsheeting The module combines theory-based lectures (Mondays) with practical lectures based on Aspen (Wednesdays)			3 hrs	Mon	10-13	G. Guillén Gosálbez
						Wed	14-18	
							HCI J4	
							HCI G174	
►► Catalysis and Separation								
Number	Title		Type	ECTS	Hours			Lecturers
151-0927-00L	<b>Rate-Controlled Separations in Fine Chemistry</b>		<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>			
151-0927-00	V	Rate-Controlled Separations in Fine Chemistry The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.			3 hrs	Thu	11-14	M. Mazzotti, V. Becattini
151-0927-00	U	Rate-Controlled Separations in Fine Chemistry The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.			1 hrs	Thu	14-15	
							ML F34	
							ML F34	
529-0617-01L	<b>Catalysis Engineering</b>		<b>W</b>	<b>6 credits</b>	<b>3G</b>			
529-0617-01	G	Catalysis Engineering			3 hrs	Mon	09-10	J. Pérez-Ramírez, S. J. Mitchell
						Thu	16-18	
							HCI J3	
							HCP E47.1	
► GESS Science in Perspective								
see GESS Science in Perspective: Language Courses ETH/UZH								
see GESS Science in Perspective: Type A: Enhancement of Reflection Capability								
Recommended GESS Science in Perspective (Type B) for D-CHAB.								

## ► Course Units for Additional Admission Requirements

The courses below are only available for MSc students with additional admission requirements.

Number	Title	Type	ECTS	Hours	Lecturers
551-0016-AAL	<b>Biology II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	2 credits	4R	
551-0016-AA R	Biology II <i>Self-study course. No presence required.</i>			60s hrs	M. Stoffel
529-0051-AAL	<b>Analytical Chemistry I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>  <i>The underlying lecture (529-0051-00L) is offered in autumn semester but only in German.</i>	E-	3 credits	6R	
529-0051-AA R	Analytical Chemistry I <i>Self-study course. No presence required.</i>			90s hrs	D. Günther, R. Zenobi
551-0013-AAL	<b>Biochemistry</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	2 credits	4R	
551-0013-AA R	Biochemistry <i>Self-study course. No presence required.</i>			60s hrs	R. Glockshuber
551-0103-AAL	<b>Fundamentals of Biology II: Cell Biology</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	5 credits	11R	
551-0103-AA R	Fundamentals of Biology II: Cell Biology <i>Self-study course. No presence required.</i>			150s hrs	U. Kutay, Y. Barral, G. Schertler, U. Suter, S. Werner

### Chemical and Bioengineering Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS  
■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.



# Chemical Engineering Bachelor

## ► 1. Semester

### ►► Compulsory Subjects First Year Examinations

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0011-02L</b>	<b>General Chemistry (Inorganic Chemistry) I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
529-0011-02 V	Allgemeine Chemie I (AC)			2 hrs	Tue	08-10	HCI G3	<b>A. Togni</b>
529-0011-02 U	Allgemeine Chemie I (AC) <i>Groups are selected in myStudies. oder nach Vereinbarung</i>			1 hrs	Mon	08-09	HCI D2 HCI H2.1 HCI H8.1 HCI J8 HIT F31.2 HIT H42	<b>A. Togni</b>
						10-11	HCI D4 HCI F2 HIL C10.2 HIT F31.2 HIT H42 HCI H8.1	
					Fri	11-12		
<b>529-0011-03L</b>	<b>General Chemistry (Organic Chemistry) I O</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
529-0011-03 V	Allgemeine Chemie I (OC)			2 hrs	Fri	08-10	HCI G7	<b>P. Chen</b>
529-0011-03 U	Allgemeine Chemie I (OC) <i>Groups are selected in myStudies. oder nach Vereinbarung</i>			1 hrs	Mon	09-10	HCI D2 HCI J6 HIT F31.2 HIT H42 HIL B21 HIL C10.2 HIT F31.2 HIT H42	<b>P. Chen</b>
						11-12	HIT J53	
					Tue	13-14		
<b>529-0011-01L</b>	<b>General Chemistry (Physical Chemistry) I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
529-0011-01 V	Allgemeine Chemie I (PC)			2 hrs	Wed	10-12	HG G5	<b>H. J. Wörner</b>
529-0011-01 U	Allgemeine Chemie I (PC) <i>Groups are selected in myStudies.</i>			1 hrs	Thu	12-13	HCI F8 HCI J6 HIT F31.1 HIT J52	<b>H. J. Wörner</b>
						13-14 18-19 10-11	HCI F8 HCI D8 HCI D6 HCI D8 HCI E2 HCI E8 HCI F2 HIL B21 HIL D10.2 HIT K51 HPK D24.2	
					Fri	10-11	HCI E2 HCI E8 HCI F2 HCP E47.2	
					20.09.	13-14		
<b>402-0043-00L</b>	<b>Physics I</b>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>				
402-0043-00 V	Physics I (Physik I)			3 hrs	Tue	16-17	HPH G2	<b>J. Home</b>
					Thu	16-18	HPH G2	
402-0043-00 U	Physik I <i>Di 17-18 für Studiengang Rechnergestützte Wissenschaften. Mi 9-10 (oder Di 17-18 als Ausweichtermin) für Studiengänge Chemie bzw. Chemieingenieurwissenschaften sowie Interdisziplinäre Naturwissenschaften. Mi 12-13 für Studiengang Raumbezogene Ingenieurwissenschaften. Do 10-11 für Studiengang Biochemie.</i>			1 hrs	Tue	17-18	HCI D2 HIT F31.1 HIT H51 HIT J51 CAB G52 HG E21 HG E22 HG E33.5 HG G26.3 ML H41.1 ML J34.1 ML J34.3 HG D3.2 HCI D6	<b>J. Home</b>
					Wed	09-10		
						12-13 10-11		
					Thu			
<b>401-0271-00L</b>	<b>Mathematical Foundations I: Analysis A</b>	<b>O</b>	<b>5 credits</b>	<b>3V+2U</b>				
401-0271-00 V	Grundlagen der Mathematik I (Analysis A)			3 hrs	Tue	10-12	HIL E1	<b>L. Keller</b>
					Wed	08-09	HG E5	
401-0271-00 U	Grundlagen der Mathematik I (Analysis A) <i>Groups are selected in myStudies.</i>			2 hrs	Mon	08-10	HIL E7 HIT J51 HIT K51 HIT K52 HCI F8 HIT J51 HIT K51 HIT K52	<b>L. Keller</b>
						10-12		

<b>529-0001-00L</b>	<b>Introduction to Computer Science</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>					
529-0001-00 V	Informatik I			2 hrs	Thu	08-10	HIL E3	<b>P. H. Hünenberger</b>	
529-0001-00 U	Informatik I			2 hrs	Tue	12-14	HCI D267.4 HIT F21 HCI D267.4 HIT F21 HCI D267.4 HIT F21 HCI D267.4 HIT F21 HCI D267.4 HIT F21	<b>P. H. Hünenberger</b>	

## ►► Laboratory Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0011-04L</b>	<b>Practical Course General Chemistry</b> <i>Latest online enrolment is 20.9.2021</i>	<b>O</b>	<b>8 credits</b>	<b>12P</b>					
	<i>Information about the practical course will be given on the first day.</i>								
529-0011-04 P	Allgemeine Chemie (Praktikum) ■ <i>Ferienpraktikum n. V. für Interdisziplinäre Naturwissenschaften kann alternativ nach dem 1. Semester oder während des 1. Semesters besucht werden. Für Phys.-Chem. Richtung prinzipiell auch während des 3. Semesters. Ferienpraktikum n. V. Woche 1-4 8-18 Uhr</i>			12 hrs	Mon Wed Fri	13-18 13-18 13-18	HCI HCI HCI	<b>H. V. Schönberg,</b> E. C. Meister	
					24.09. 27.09. 13.10.	13-16 13-16 13-15	HCI G3 HPH G1 HIL C10.2		

## ► 3. Semester

### ►► Examination Block I

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0121-00L</b>	<b>Inorganic Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
529-0121-00 V	Anorganische Chemie I			2 hrs	Mon	08-10	HCI G3	<b>H. Grützmacher,</b> P. Steinegger	
529-0121-00 U	Anorganische Chemie I			1 hrs	Tue	12-13	HCI D2 HCI D8 HCI E8 HCI F2 HCI F8 HCI J8	<b>H. Grützmacher,</b> P. Steinegger	
<b>529-0221-00L</b>	<b>Organic Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
529-0221-00 V	Organische Chemie I			2 hrs	Wed	12-14	HCI G3	<b>H. Wennemers</b>	
529-0221-00 U	Organische Chemie I <i>Groups are selected in myStudies.</i>			1 hrs	Mon	12-13	HCI D6 HCI E8 HCI F8 HCI H2.1 HCI J8 HCI D8 HCI H2.1 HCI J3 HCI J8	<b>H. Wennemers</b>	
					Tue	08-09			
<b>529-0422-00L</b>	<b>Physical Chemistry II: Chemical Reaction Kinetics</b>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>					
529-0422-00 V	Physikalische Chemie II: Chemische Reaktionskinetik			3 hrs	Tue Fri	09-10 10-12	HCI J3 HCI G3	<b>F. Merkt,</b> U. Hollenstein	
529-0422-00 U	Physikalische Chemie II: Chemische Reaktionskinetik <i>Groups are selected in myStudies.</i>			1 hrs	Mon	08-09	HCI D4 HCI D6 HCI E2 HCP E47.2 HCI D4 HCI D6 HCI E8 HCI F8 HCI D4 HCI D6 HCI E8	<b>F. Merkt,</b> U. Hollenstein	
					Tue	10-11			
						11-12			
<b>529-0051-00L</b>	<b>Analytical Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>					
529-0051-00 G	Analytische Chemie I			3 hrs	Wed Thu	08-10 08-09	HCI G3 HPH G2	<b>D. Günther,</b> M.-O. Ebert, G. Schwarz, R. Zenobi	
<b>401-0373-00L</b>	<b>Mathematics III: Partial Differential Equations</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>					
401-0373-00 V	Mathematics III: Partial Differential Equations			2 hrs	Thu	10-12	HCI J7	<b>A. Carlotto</b>	
401-0373-00 U	Mathematics III: Partial Differential Equations <i>Groups are selected in myStudies.</i>			1 hrs	Thu	09-10	HCI J7 HCP E47.1 HIT H51 HCP E47.2	<b>A. Carlotto</b>	

## ►► Laboratory Courses

Number	Title	Type	ECTS	Hours					Lecturers
--------	-------	------	------	-------	--	--	--	--	-----------

<b>529-0129-00L</b>	<b>Inorganic and Organic Chemistry II</b>	<b>O</b>	<b>11 credits</b>	<b>16P</b>				
<i>Latest online enrolment is one week before the beginning of the semester.</i>								
529-0129-00 P	Inorganic and Organic Chemistry II			16 hrs	Mon	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	<b>V. Mougel</b>
					Tue	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	
					Thu	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	
					Fri	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	
					23.09.	17-18	HCI J6	
					24.09.	14-18	HCI G7	

## ► 5. Semester

### ►► Compulsory Subjects

#### ►►► Examination Block II

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0557-00L</b>	<b>Chemical Engineering Thermodynamics</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>					
529-0557-00 G	Chemical Engineering Thermodynamics			3 hrs	Wed	14-17	HCI H2.1		<b>A. de Mello, S. Stavrakis</b>
<b>151-0917-00L</b>	<b>Mass Transfer</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0917-00 V	Mass Transfer			2 hrs	Wed	10-12	ML H44		<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>
151-0917-00 U	Mass Transfer <i>The exercise will start in the 2nd week of the Semester.</i>			2 hrs	Tue	14-16	HG E1.1		<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>
<b>529-0636-00L</b>	<b>Heat Transport and Fluid Dynamics</b>	<b>O</b>	<b>4 credits</b>	<b>4G</b>					
529-0636-00 G	Wärmetransport und Strömungslehre ■ <i>Permission from lecturers required for all students Dienstag 16:00 - 18:00 Uhr findet alle zwei Wochen statt.</i>			4 hrs	Mon Tue/2w	10-13 16-18	HG D5.2 HG E33.3		<b>A. A. Kubik</b>

#### ►►► Examination Block III

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0632-00L</b>	<b>Homogeneous Reaction Engineering</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>					
529-0632-00 G	Homogeneous Reaction Engineering			3 hrs	Tue Wed	10-12 13-14	HCI H8.1 HCI D8		<b>P. Arosio</b>
<b>752-4001-00L</b>	<b>Microbiology</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>					
752-4001-00 V	Mikrobiologie			2 hrs	Mon	08-10	ML D28		<b>M. Ackermann, M. Schuppler, J. Vorholt-Zambelli</b>
<b>401-0675-00L</b>	<b>Statistical and Numerical Methods for Chemical Engineers</b>	<b>O</b>	<b>3 credits</b>	<b>2V+2U</b>					
401-0675-00 V	Statistical and Numerical Methods for Chemical Engineers			2 hrs	Wed	08-10	HG E33.1		<b>R. Käppeli, P. Müller, A. Ruf</b>
401-0675-00 U	Statistical and Numerical Methods for Chemical Engineers			26s hrs	Tue	08-10	HCI H8.1		<b>C.-J. Shih, M. Sokolov</b>
<b>351-0778-00L</b>	<b>Discovering Management</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>					
<i>Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercises) 351-0778-01.</i>									
351-0778-00 G	Discovering Management <i>Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Fri	08-11	HG E1.1		<b>B. Clarysse, S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe</b>

#### ►►► Examination Block IV

*Offered in the Spring Semester.*

#### ►►► Examination Block V

*Offered in the Spring Semester.*

#### ►► Laboratory Courses and Case Studies

Number	Title	Type	ECTS	Hours					Lecturers
--------	-------	------	------	-------	--	--	--	--	-----------

<b>529-0549-01L</b>	<b>Case Studies in Process Design I</b>	<b>O</b>	<b>3 credits</b>	<b>3A</b>					
529-0549-01 A	Case Studies in Process Design I <i>This course does not take place on a weekly basis. Instead, a case study is carried out by the students in a specific "case study week", 25-29 October 2021. Besides, there will be four introductory lectures to the project (before the case study week) as follows: October 1/8/15/22 from 13-16.</i>			39s hrs	01.10. 08.10.	13-16 13-16	HPK D3 HPK D3	<b>G. Guillén Gosálbez,</b> J. Dolenc, U. Fischer	
<b>529-0639-01L</b>	<b>Chemical Engineering Laboratory</b>	<b>O</b>	<b>6 credits</b>	<b>8P</b>					
529-0639-01 P	Chemieingenieurwesen BSc			8 hrs	Thu 23.09.	09-12 14-18 09-12 13-17	HCI HCI HCI J4 HCI J6	<b>N. Kobert,</b> R. Grass	

## ► GESS Science in Perspective

### ►► Science in Perspective

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-CHAB

### ►► Language Courses

see GESS Science in Perspective:  
Language Courses ETH/UZH

## Chemical Engineering Bachelor - Key for Type

E-	Recommended, not eligible for credits	O	Compulsory
Z	Courses outside the curriculum	W+	Eligible for credits and recommended
Dr	Suitable for doctorate	W	Eligible for credits

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Comparative and International Studies Master

## ► Core Seminars

Number	Title	Type	ECTS	Hours				Lecturers
<b>857-0001-00L</b>	<b>Methods I: Research Design, Qualitative Methods, and Data Collection</b> <i>Only for MA Comparative and International Studies (MACIS).</i>	<b>O</b>	<b>6 credits</b>	<b>2U+2S</b>				
857-0001-00 U	Methods I: Tutorial Data Collection Methods and Research Design			2 hrs	Thu	10-12	HG E33.5	<b>S. Hegewald</b>
857-0001-00 S	Methods I: Research Design, Qualitative Methods, and Data Collection			2 hrs	Wed	10-12	RZ F21	<b>F. Schimmelfennig</b>
<b>857-0007-00L</b>	<b>Democracy</b> <i>Only for MA Comparative and International Studies.</i>	<b>W</b>	<b>8 credits</b>	<b>2S</b>				
857-0007-00 S	Democracy <i>**together with University of Zurich**</i>			2 hrs	Mon	10-12	RZ F21	<b>F. Schimmelfennig, D. Kübler</b>
<b>857-0009-00L</b>	<b>Political Violence</b> <i>Only for Comparative and International Studies MSc.</i>	<b>W</b>	<b>8 credits</b>	<b>2S</b>				
857-0009-00 S	Political Violence			2 hrs	Wed	14-16	IFW C33	<b>L.-E. Cederman, G. D. Clayton</b>
<b>857-0091-00L</b>	<b>Methods II: Quantitative Methods</b> <i>Only for Comparative and International Studies MSc and UZH MA in Politics.</i>	<b>O</b>	<b>6 credits</b>	<b>2U+2S</b>				
857-0091-00 U	Methods II: Tutorial ■			2 hrs	Tue	14-16	IFW B42	<b>D. Hangartner, A. Alrababa'h</b>
857-0091-00 S	Methods II: Quantitative Methods ■			2 hrs	Mon	14-16	IFW D42	<b>D. Hangartner</b>

## ► Research Seminars

Number	Title	Type	ECTS	Hours				Lecturers
<b>857-0103-00L</b>	<b>Topics in Public Policy: Governing the Energy Transition</b> <i>Only for MA Comparative and International Studies.</i>	<b>W</b>	<b>8 credits</b>	<b>2V+3S</b>				
851-0609-06 V	Governing the Energy Transition			2 hrs	Thu	16-18	NO C60	<b>T. Schmidt, N. Schmid, S. Sewerin</b>
857-0103-00 S	Topics in Public Policy: Governing the Energy Transition ■ <i>Students have to attend the seminar 'Governing the Energy Transition' 851-0609-06 on Thursdays, 16 - 18, HG E 21. Meeting dates for the research paper will be announced in the seminar.</i>			3 hrs				<b>S. Sewerin, N. Schmid, T. Schmidt</b>
<b>857-0104-00L</b>	<b>Topics in Public Policy: The Politics and Policies of International Migration</b> <i>Number of participants limited to 18. MACIS students are given priority.</i>	<b>W</b>	<b>8 credits</b>	<b>3S</b>				
857-0104-00 S	Topics in Public Policy: The Politics and Policies of International Migration			3 hrs	Thu	14-16	IFW E42	<b>D. Hangartner</b>
<b>857-0052-00L</b>	<b>Comparative and International Political Economy</b> <i>Number of participants limited to 15. MACIS students are given priority. Registration required to koubi@ir.gess.ethz.ch</i>	<b>W</b>	<b>8 credits</b>	<b>2S</b>				
857-0052-00 S	Comparative and International Political Economy ■			2 hrs	Thu	10-12	IFW E42	<b>V. Koubi</b>
<b>857-0098-00L</b>	<b>The Politics of Cybersecurity</b> <i>Number of participants limited to 15. MACIS students are given priority.</i>	<b>W</b>	<b>8 credits</b>	<b>2S</b>				
857-0098-00 S	The Politics of Cybersecurity ■			2 hrs	Tue	14-16	IFW E42	<b>M. Dunn Cavelty, M. Leese</b>
<b>857-0106-00L</b>	<b>International Environmental Politics (with Research Paper)</b> <i>Only for MA Comparative and International Studies.</i>	<b>W</b>	<b>8 credits</b>	<b>2V+3S</b>				
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3	<b>T. Bernauer</b>
857-0106-00 S	International Environmental Politics (with Research Paper) <i>Students have to attend the lecture 'International Environmental Politics' 860-0023-00L' on Monday, 16 - 18, HG F 3. Meeting dates for the research paper upon agreement with Prof. Thomas Bernauer or Prof. Vally Koubi.</i>			3 hrs				<b>T. Bernauer, V. Koubi</b>

## ► Electives

Number	Title	Type	ECTS	Hours				Lecturers
<b>860-0023-00L</b>	<b>International Environmental Politics</b> <i>Particularly suitable for students of D-ITET, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3	<b>T. Bernauer</b>
<b>857-0027-00L</b>	<b>International Organizations (Field Trip)</b> <i>Only for Comparative and International</i>	<b>W</b>	<b>2 credits</b>	<b>1S</b>				

857-0027-00 S	Studies MSc. International Organizations Field trip to Geneva.			20s hrs					<b>D. Hangartner</b>
<b>851-0609-06L</b>	<b>Governing the Energy Transition</b> <i>Primarily suited for Master and PhD level.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0609-06 V	Governing the Energy Transition			2 hrs	Thu	16-18	NO C60		<b>T. Schmidt</b> , N. Schmid, S. Sewerin
<b>865-0064-00L</b>	<b>Decolonizing Aid</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation. Doctoral students dealing with empirical research in the area of development and cooperation (EZA) may be admitted "sur Dossier".</i>	<b>W</b>	<b>2 credits</b>	<b>3G</b>					
	<i>Registration only through the NADEL administration office.</i>								
865-0064-00 G	Decolonizing Aid Block course from 01.11. - 05.11.2021 Location: CLD A1			40s hrs					<b>K. Schneider</b> , L. Hensgen
<b>865-0070-00L</b>	<b>The Private Sector and Development Organizations: Building Successful Alliances</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation. Doctoral students dealing with empirical research in the area of development and cooperation (EZA) may be admitted "sur Dossier".</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>					
	<i>Registration only through the NADEL administration office.</i>								
865-0070-00 G	The Private Sector and Development Organizations: Building Successful Alliances Block course from 15.11. – 17.11.2021 Location: CLD A1			24s hrs					<b>F. Brugger</b>

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>857-0019-00L</b>	<b>Master's Thesis Colloquium</b> <i>Only for Comparative and International Studies MSc.</i>	<b>O</b>	<b>4 credits</b>	<b>3K</b>	
	<i>Permission to begin master thesis is required to take part in Colloquium.</i>				
857-0019-00 K	Master's Thesis Colloquium <i>Permission from lecturers required for all students **together with University of Zurich**</i>			3 hrs	<b>J. Spirig</b>
<b>857-0021-00L</b>	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis: a. successful completion of the bachelor programme; b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>	<b>O</b>	<b>26 credits</b>	<b>56D</b>	
857-0021-00 D	Master's Thesis ■			780s hrs by appt.	Professors

## Comparative and International Studies Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Computational Biology and Bioinformatics Master

More information at: <https://www.cbb.ethz.ch/>

## ► Core Courses

Please note that the list of core courses is a closed list. Other courses cannot be added to the core course category in the study plan. Also the assignments of courses to core subcategories cannot be changed.  
Students need to pass at least one course in each core subcategory.  
A total of 40 ECTS needs to be acquired in the core course category.

## ►► Bioinformatics

Please note that all Bioinformatics core courses are offered in the autumn semester

Number	Title	Type	ECTS	Hours				Lecturers
<b>636-0009-00L</b>	<b>Evolutionary Dynamics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>				
636-0009-00 V	Evolutionary Dynamics <i>Attention: lecture starts on Thursday, 30 Sep 2021</i>			2 hrs	Thu	09-11	BSA E46 HG D16.2	<b>N. Beerenwinkel</b>
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked for students to follow the course from there.</i>							
636-0009-00 U	Evolutionary Dynamics <i>Online: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there</i>			1 hrs	Thu	11-12	BSA E46 HG D16.2	<b>N. Beerenwinkel</b>
636-0009-00 A	Evolutionary Dynamics <i>Project Work (compulsory continuous performance assessment), no fixed presence required.</i>			2 hrs				<b>N. Beerenwinkel</b>
<b>636-0017-00L</b>	<b>Computational Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>				
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>			3 hrs	Mon	16-18	BSA E46 HG D16.2	<b>T. Vaughan</b>
					Thu	18-19 12-13	HG D16.2 BSA E46	
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>			2 hrs				<b>T. Vaughan</b>
<b>262-6100-00L</b>	<b>Evolutionary Genetics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
262-6100-00 G	Evolutionary Genetics (University of Basel) <i>**Course at University of Basel** Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=259371">https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=259371</a></i>			3 hrs				external organisers
<b>262-6110-00L</b>	<b>Bioinformatics Algorithms</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
262-6110-00 G	Bioinformatics Algorithms (University of Basel) <i>**Course at University of Basel** Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=259473">https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=259473</a></i>			3 hrs				external organisers
<b>401-6282-00L</b>	<b>Statistical Analysis of High-Throughput Genomic and Transcriptomic Data (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: STA426</i>	<b>W</b>	<b>5 credits</b>	<b>3G</b>				
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>							
401-6282-00 G	Statistical Analysis of High-Throughput Genomic and Transcriptomic Data (University of Zurich) <i>**Course at University of Zurich**</i>			3 hrs	Mon	09-12	UNI ZH.	<b>H. Rehrauer, M. Robinson</b>

## ►► Biophysics

Number	Title	Type	ECTS	Hours				Lecturers
<b>262-6106-00L</b>	<b>Current Topics in Biophysics</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
262-6106-00 G	Current Topics in Biophysics (University of Uni Basel) <i>**Course at the University of Basel** Course will be held online in Autumn Semester 2021! Students need to also register with the University of Basel for this course! The first lecture will be on September 27 at 10:15am <a href="https://vorlesungsverzeichnis.unibas.ch/en/home?id=259219">https://vorlesungsverzeichnis.unibas.ch/en/home?id=259219</a></i>			3 hrs				external organisers
<b>636-0104-00L</b>	<b>Biophysical Methods</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				

636-0104-00 G	Biophysical Methods <i>Attention: Lecture starts on Wednesday, September 29 This lecture will take place in classroom in Basel.</i>	3 hrs	Wed	10-13	BSA E46	<b>D. J. Müller</b>
<b>529-0004-01L</b>	<b>Classical Simulation of (Bio)Molecular Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
529-0004-01 G	Classical Simulation of (Bio)Molecular Systems <i>2 hr lecture + 2 hr exercise session in our computer room; the students can choose between two alternative exercise sessions, either on Tuesdays 7:30-9:30 a.m. or on Thursdays 7:45-9:45 a.m.; the course was previously named CSCBP (the content remains the same, but the new title is more adequate)</i>	4 hrs	Tue	10-12	HCI D2	<b>P. H. Hünenberger</b> , J. Dolenc, S. Riniker

## ►► Biosystems

Number	Title	Type	ECTS	Hours				Lecturers
636-0007-00L	Computational Systems Biology	W	6 credits	3V+2U				
636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>			3 hrs	Wed	14-17	HG D3.2	J. Stelling
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>			2 hrs	Fri	10-12	HG D1.2	J. Stelling
636-0706-00L	Spatio-Temporal Modelling in Biology	W	4 credits	3G				
636-0706-00 G	Spatio-Temporal Modelling in Biology <i>The lecture course will be offered as "inverted classroom". Lecture videos, slides, and scripts will be made available via Moodle, and students are expected to watch the videos ahead of the lecture. The 45-minute in person lecture time serves to answer student question where necessary, and to discuss application examples with students to deepen their understanding of the material. Similarly, problem sheets and solutions will be made available ahead of the tutorial. The tutorials serve to address further questions. As students from both Basel and Zurich participate in the course, lectures and tutorials will be offered in alternating weeks in Basel and Zurich. Remote participation is always possible. It is a new form of teaching. Feedback will be most welcome. Thursday 10-11 Q&amp;A Lecture (BS) Thursday 11-12 Tutorial (BS) Friday 11-12 Q&amp;A Lecture (ZH) Friday 12-13 Tutorial (ZH) Course starts: Friday, Sept. 24 in ZH</i>			3 hrs	Thu Fri	10-11 11-12 11-12 12-13	BSD G207.1 BSD G207.1 HG D16.2 HG D16.2	D. Iber
636-0117-00L	Mathematical Modelling for Bioengineering and Systems Biology	W	4 credits	3G				
636-0117-00 G	Mathematical Modelling for Bioengineering and Systems Biology <i>The lecture course will be offered as "inverted classroom". Lecture videos, slides, and scripts will be made available via Moodle, and students are expected to watch the videos ahead of the lecture. The 45-minute in person lecture time serves to answer student question where necessary, and to discuss application examples with students to deepen their understanding of the material. Similarly, problem sheets and solutions will be made available ahead of the tutorial. The tutorials serve to address further questions. As students from both Basel and Zurich participate in the course, lectures and tutorials will be offered in alternating weeks in Basel and Zurich. Remote participation is always possible. It is a new form of teaching. Feedback will be most welcome. Thursday 8-9 Tutorial (BS) Thursday 9-10 Q&amp;A Lecture (BS) Friday 9-10 Tutorial (ZH) Friday 10-11 Q&amp;A Lecture (ZH) Course starts: Thursday, Sept. 30 2021 in BS</i>			3 hrs	Thu Fri	08-09 09-10 09-10 10-11	BSD G205 BSD G205 HG D16.2 HG D16.2	D. Iber

## ►► Data Science

Number	Title	Type	ECTS	Hours				Lecturers
636-0018-00L	Data Mining I	W	6 credits	3G+2A				
636-0018-00 G	Data Mining I Tutorial: 8-9h, Lecture: 9-11h. ATTENTION: Course starts on Wednesday, Sept. 29  The course will be held via Zoom (not in classroom) and lectures and tutorials will be recorded. Online event: This event will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.			3 hrs	Wed	08-11	BSD G205 HG D16.2	K. M. Borgwardt



636-0018-00 A	Data Mining I <i>Project Work (compulsory continuous performance assessment), no fixed presence required.</i>	2 hrs						<b>K. M. Borgwardt</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>	3 hrs		Thu 15-16	ETA F5 ETF E1			<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning	2 hrs		Wed 14-16 Thu 16-18 Fri 14-16	HG F3 CAB G61 CAB G61 ML F34 CAB G61			<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>	4 hrs						<b>J. M. Buhmann,</b> C. Cotrini Jimenez

## ► Seminar

*Compulsory seminar.*

Number	Title	Type	ECTS	Hours	Lecturers			
<b>636-0704-00L</b>	<b>Computational Biology and Bioinformatics Seminar</b> <i>Number of participants limited to 30 The seminar is addressed primarily at students enrolled in the MSc CBB programme. Students of other ETH study programmes interested in this course need to ask the lecturer for permission to enrol in the course.</i>  <i>The Seminar will be offered in autumn semester in Basel (involving professors and lecturers from the University of Basel) and in spring semester in Zurich (involving professors and lecturers from the University of Zurich). Professors and lecturers from ETH Zurich are involved in both semesters.</i>	<b>O</b>	<b>2 credits</b>	<b>2S</b>				
636-0704-00 S	Computational Biology and Bioinformatics Seminar <i>ATTENTION: Lecture starts on Thursday, Sept. 30 This seminar will take place online via Zoom.</i>			2 hrs	Thu 14-16	BSD G205		<b>N. Beerenwinkel,</b> K. M. Borgwardt, D. Iber, M. H. Khamash, J. Stelling

## ► Advanced Courses

*A total of 30 ECTS needs to be acquired in the Advanced Courses category. Thereof at least 16 ECTS in the Theory and at least 10 ECTS in the Biology category.*

*Note that some of the lectures are being recorded: <https://video.ethz.ch/lectures.html>*

## ►► Theory

*At least 18 ECTS need to be acquired in this category.*

Number	Title	Type	ECTS	Hours	Lecturers			
<b>401-0663-00L</b>	<b>Numerical Methods for Computer Science</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2P</b>				
401-0663-00 V	Numerical Methods for Computer Science <i>This course is designed in a flipped classroom format based on video tutorials and supplemented by a weekly question-and-answer session, for which attendance is highly recommended.</i>			2 hrs	Thu 10-12	HG F1		<b>R. Hiptmair</b>
401-0663-00 U	Numerical Methods for Computer Science <i>Groups are selected in myStudies. Mon 10-12 or Mon 14-16 according to exercise group allocation.</i>			2 hrs	Mon 10-12 14-16	CLA E4 LFW E13 ML H41.1 ML J34.1 ML J34.3 HG E33.3 LEE D105 LFW B3 LFW C5 ML F40		<b>R. Hiptmair</b>
401-0663-00 P	Numerical Methods for Computer Science <i>Self-study based on video tutorial and lecture notes.</i>			2 hrs				<b>R. Hiptmair</b>
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>			3 hrs	Fri 10-12 13-14	ETA F5 ETF E1 ETA F5 ETF E1		<b>A. Krause</b>
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>			2 hrs	Thu 16-18	CHN C14		<b>A. Krause</b>
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs				<b>A. Krause</b>
<b>401-0647-00L</b>	<b>Introduction to Mathematical Optimization</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>				
401-0647-00 V	Introduction to Mathematical Optimization			2 hrs	Tue 16-18	HG F5		<b>D. Adjashvili</b>
401-0647-00 U	Introduction to Mathematical Optimization <i>Groups are selected in myStudies. Wed 12-13 or Wed 16-17</i>			1 hrs	Wed 12-13 16-17	HG D1.2 IFW A36 ON LINE		<b>D. Adjashvili</b>

<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0225-00 G	Linear System Theory			5 hrs	Mon Wed 22.09.	09-12 10-12 10-12	IFW A36 ETZ E6 HG D1.1	<b>A. Iannelli</b>	
<b>151-0575-01L</b>	<b>Signals and Systems</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0575-01 V	Signals and Systems <i>The lecture will start in the 2nd week of the Semester.</i>			2 hrs	Thu	14-16	ETF C1	<b>A. Carron</b>	
151-0575-01 U	Signals and Systems <i>The exercise will start in the 3rd week of the Semester.</i>			2 hrs	Thu	16-18	ETF C1	<b>A. Carron</b>	
<b>252-0237-00L</b>	<b>Concepts of Object-Oriented Programming</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
252-0237-00 V	Concepts of Object-Oriented Programming <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Thu	09-12	HG E1.1	<b>P. Müller</b>	
252-0237-00 U	Concepts of Object-Oriented Programming			2 hrs	Fri	08-10 10-12	CAB G57 CHN D42 CAB G57 CHN D42 CHN D44	<b>P. Müller</b>	
252-0237-00 A	Concepts of Object-Oriented Programming			2 hrs				<b>P. Müller</b>	
<b>262-6140-00L</b>	<b>Random Processes: Theory and Applications from Physics to Finance</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
262-6140-00 G	Random Processes: Theory and Applications from Physics to Finance (University of Basel) <i>**Course at University of Basel** Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=260183">https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=260183</a></i>			3 hrs				external organisers	
<b>262-6150-00L</b>	<b>Programming for Life Sciences</b>	<b>W</b>	<b>4 credits</b>	<b>2P</b>					
262-6150-00 P	Programming for Life Sciences (University of Basel) <i>**Course at University of Basel** Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=259218">https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=259218</a></i>			2 hrs				external organisers	
<b>636-0015-00L</b>	<b>An Introduction to Probability Theory and Stochastic Processes with Applications to Biology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
636-0015-00 G	An Introduction to Probability Theory and Stochastic Processes with Applications to Biology <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked for students to follow the course from there.</i>			3 hrs	Mon	11-12 14-16	BSD G205 BSD G205	<b>A. Gupta</b>	
<b>263-3010-00L</b>	<b>Big Data</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>					
263-3010-00 V	Big Data <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue Wed	14-16 09-10	CAB G61 ML H44	<b>G. Fourny</b>	
263-3010-00 U	Big Data <i>Groups are selected in myStudies.</i>			2 hrs	Wed  Fri	14-16  14-16	CAB G52 HG E33.1 HG G26.1 ON LINE CAB G52 ON LINE	<b>G. Fourny</b>	
263-3010-00 A	Big Data <i>Individual work to get hands-on experience with the technologies covered, no fixed presence required.</i>			4 hrs				<b>G. Fourny</b>	
<b>261-5112-00L</b>	<b>Algorithms and Data Structures for Population Scale Genomics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
261-5112-00 G	Algorithms and Data Structures for Population Scale Genomics <i>Number of participants limited to 30. Does not take place this semester. Course will be offered again in FS 2022.</i>			2 hrs				to be announced	
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	14-16	HG E5	<b>G. Fourny</b>	
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE	<b>G. Fourny</b>	

## ►► Biology

*At least 12 ECTS need to be acquired in this category.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0733-01L</b>	<b>Enzymes</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0733-01 G	Enzymes <i>Lecture 2 hours on Monday, 09:45 - 11:30. 1 hour exercise Monday or Tuesday from second week on - according to agreement.</i>			3 hrs	Mon	09-10	HCI H8.1	<b>D. Hilvert</b>
					Tue	10-12 12-13	HCI J6 HCI H2.1	
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>	<b>W</b>	<b>6 credits</b>	<b>4V</b>				
	<i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>							
551-0309-00 V	Concepts in Modern Genetics <b>**gemeinsam mit der Universität Zürich**</b>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7	<b>W.-D. Hardt</b> , L. Eberl, J. Piel, M. Pilhofer
<b>551-0317-00L</b>	<b>Immunology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0317-00 V	Immunology I			2 hrs	Tue	08-10	HG G3	<b>M. Kopf</b> , A. Oxenius
<b>636-0105-00L</b>	<b>Introduction to Biological Computers</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
636-0105-00 G	Introduction to Biological Computers <i>Attention: Lecture starts on Friday, Oct. 1 This lecture will take place in classroom in BASEL. An option to participate via Zoom will be offered.</i>			3 hrs	Fri	14-17	BSA E46 HIT F22	<b>Y. Benenson</b>
<b>636-0510-00L</b>	<b>Proteomics and Drug Discovery Research</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
636-0510-00 V	Proteomics and Drug Discovery Research (University of Basel) <b>**Course at University of Basel**</b> <i>This course will not be offered in Autumn Semester 2021!</i>			2 hrs				external organisers
<b>636-0511-00L</b>	<b>Developmental Neuroscience</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
636-0511-00 V	Developmental Neuroscience (University of Basel) <b>**Course at University of Basel**</b> <i>Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/de/recherche?id=259229">https://vorlesungsverzeichnis.unibas.ch/de/recherche?id=259229</a></i>			2 hrs				external organisers
<b>636-0515-00L</b>	<b>Molecular Medicine I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
636-0515-00 V	Molecular Medicine I (University of Basel) <b>**Course at University of Basel**</b> <i>Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/de/recherche?id=259222">https://vorlesungsverzeichnis.unibas.ch/de/recherche?id=259222</a></i>			2 hrs				external organisers
<b>262-6170-00L</b>	<b>Molecular Mechanisms of Development</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
262-6170-00 V	Molecular Mechanisms of Development (University of Basel) <b>**Course at University of Basel**</b> <i>Students need to also register with the University of Basel for this course! <a href="https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=259230">https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=259230</a></i>			2 hrs				external organisers
<b>262-6180-00L</b>	<b>Molecular Control of Vertebrate Development and Organogenesis</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
262-6180-00 V	Molecular Control of Vertebrate Development and Organogenesis (University of Basel) <i>Does not take place this semester. <b>**Course at University of Basel**</b></i>			2 hrs				external organisers
<b>262-5130-00L</b>	<b>Evolutionary Medicine: Ancient pathogens and pathologies (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO440</i>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>							
262-5130-00 G	Evolutionary Medicine: Ancient pathogens and pathologies (University of Zurich) <b>**Course at University of Zurich**</b>			5 hrs				University lecturers
<b>262-6101-00L</b>	<b>Antibiotic Drug Targets and Resistance</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>				

262-6101-00 V	Antibiotic Drug Targets and Resistance (University of Basel) <i>Does not take place this semester.</i> <i>**Course at University of Basel**</i>	1 hrs						external organisers
<b>262-6102-00L</b>	<b>Functional Organization of the Cell Nucleus</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
262-6102-00 V	Functional Organization of the Cell Nucleus (University of Basel) <i>Does not take place this semester.</i> <i>**Course at University of Basel**</i>			2 hrs				external organisers
<b>262-6103-00L</b>	<b>Cellular Signalling</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
262-6103-00 V	Cellular Signalling (University of Basel) <i>Does not take place this semester.</i> <i>**Course at University of Basel**</i>			2 hrs				external organisers
<b>262-6105-00L</b>	<b>Frontiers in RNA Biology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
262-6105-00 V	Frontiers in RNA Biology (University of Basel) <i>**Course at University of Basel**</i> <i>Students need to also register with the University of Basel for this course!</i> <a href="https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=259256">https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=259256</a>			2 hrs				external organisers
<b>636-0109-00L</b>	<b>Stem Cells: Biology and Therapeutic Manipulation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
636-0109-00 G	Stem Cells: Biology and Therapeutic Manipulation <i>Does not take place this semester.</i> <i>This lecture will not be held in Autumn Semester 2021. It will be offered again in Autumn Semester 2022.</i>			3 hrs				<b>T. Schroeder</b>
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2).</i> <i>Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2	<b>M. Fussenegger</b>
<b>262-5120-00L</b>	<b>Principles of Evolution: Theory (University of Zurich)</b>	<b>W</b>	<b>6 credits</b>	<b>3V</b>				
	<i>No enrolment to this course at ETH Zurich.</i> <i>Book the corresponding module directly at UZH as an incoming student.</i> <i>UZH Module Code: BIO351</i>  <i>Mind the enrolment deadlines at UZH:</i> <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a>							
262-5120-00 V	Principles of Evolution: Theory (University of Zurich) <i>**Course at University of Zurich**</i>			40s hrs				University lecturers
<b>551-0307-00L</b>	<b>Molecular and Structural Biology I: Protein Structure and Function</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
	<i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>							
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function			2 hrs	Mon	14-16	HCI J7	<b>R. Glockshuber</b> , K. Locher, E. Weber-Ban
<b>262-6107-00L</b>	<b>Applied Mathematics and Informatics in Drug Discovery</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
262-6107-00 G	Applied Mathematics and Informatics in Drug Discovery (University of Basel) <i>**Course at University of Basel**</i> <i>Students need to also register with the University of Basel for this course!</i> <a href="https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=258849">https://vorlesungsverzeichnis.unibas.ch/en/investigation?id=258849</a>			2 hrs				external organisers

## ► Lab Rotations

Students starting before Autumn Semester 2021:

18 ECTS in total (262-01\*).

At least two lab rotations need to be completed in two different research groups (supervisors).

Either choose Lab Rotation Short 1 (6 ECTS), Lab Rotation Short 2 (6 ECTS) and Lab Rotation Short 3 (6 ECTS)

Or choose Lab Rotation Long 1 (9 ECTS) and Lab Rotation Long 2 (9 ECTS)

Or choose Lab Rotation Short 1 (6 ECTS) and Industry Internship (12 ECTS)

Or choose Lab Rotation Short 1 (6 ECTS) and Lab Rotation Long 3 (12 ECTS)

Students starting in Autumn Semester 2021 or later:

18 ECTS in total (262-03\*).

At least one lab rotation in different group/ supervisor than master's thesis.

Either choose Lab Rotation Short 1 and Lab Rotation Short 2 (each 6 weeks, 9 ECTS)

Or choose Lab Rotation Short 1 and Industry Internship Short (each 6 weeks, 9 ECTS)

Or choose Lab Rotation Long (12 weeks, 18 ECTS)

Or choose Industry Internship Long (12 weeks, 18 ECTS)

Number	Title	Type	ECTS	Hours	Lecturers
<b>262-0100-00L</b>	<b>Lab Rotation Short 1</b>	<b>W</b>	<b>6 credits</b>	<b>13A</b>	
262-0100-00 A	Lab Rotation Short 1 ■			180s hrs	Lecturers
<b>262-0101-00L</b>	<b>Lab Rotation Short 2</b>	<b>W</b>	<b>6 credits</b>	<b>13A</b>	

262-0101-00 A	Lab Rotation Short 2 ■			180s hrs	Lecturers
<b>262-0102-00L</b>	<b>Lab Rotation Short 3</b>	<b>W</b>	<b>6 credits</b>	<b>13A</b>	
262-0102-00 A	Lab Rotation Short 3 ■			180s hrs	Lecturers
<b>262-0103-00L</b>	<b>Lab Rotation Long 1</b>	<b>W</b>	<b>9 credits</b>	<b>19A</b>	
262-0103-00 A	Lab Rotation Long 1 ■			270s hrs	Lecturers
<b>262-0104-00L</b>	<b>Lab Rotation Long 2</b>	<b>W</b>	<b>9 credits</b>	<b>19A</b>	
262-0104-00 A	Lab Rotation Long 2 ■			270s hrs	Lecturers
<b>262-0105-00L</b>	<b>Industry Internship</b>	<b>W</b>	<b>12 credits</b>	<b>26A</b>	
262-0105-00 A	Industry Internship ■			360s hrs	Lecturers
<b>262-0106-00L</b>	<b>Lab Rotation Long 3</b>	<b>W</b>	<b>12 credits</b>	<b>26A</b>	
262-0106-00 A	Lab Rotation Long 3 ■			360s hrs	Lecturers
<b>262-0300-00L</b>	<b>Lab Rotation Short 1</b>	<b>W</b>	<b>9 credits</b>	<b>17A</b>	
262-0300-00 A	Lab Rotation Short 1			240s hrs	Lecturers
<b>262-0301-00L</b>	<b>Lab Rotation Short 2</b>	<b>W</b>	<b>9 credits</b>	<b>17A</b>	
262-0301-00 A	Lab Rotation Short 2			240s hrs	Lecturers
<b>262-0303-00L</b>	<b>Lab Rotation Long</b>	<b>W</b>	<b>18 credits</b>	<b>34A</b>	
262-0303-00 A	Lab Rotation Long			480s hrs	Lecturers
<b>262-0302-00L</b>	<b>Industry Internship Short</b>	<b>W</b>	<b>9 credits</b>	<b>17A</b>	
262-0302-00 A	Industry Internship Short			240s hrs	Lecturers
<b>262-0304-00L</b>	<b>Industry Internship Long</b>	<b>W</b>	<b>18 credits</b>	<b>34A</b>	
262-0304-00 A	Industry Internship Long			480s hrs	Lecturers

### ► GESS Science in Perspective

*see GESS Science in Perspective:  
Language Courses ETH/UZH*

*see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended GESS Science in  
Perspective (Type B) for D-INFK.*

### ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>262-0800-00L</b>	<b>Master's Thesis</b>	<b>O</b>	<b>30 credits</b>	<b>64D</b>	
	<i>Only students who fulfill the following criteria are allowed to begin with their master thesis: a. successful completion of the bachelor programme; b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>				
262-0800-00 D	Master's Thesis ■			900s hrs by appt.	Professors

### ► Course Units for Additional Admission Requirements

*The courses below are only available for MSc students with additional requirements.*

Number	Title	Type	ECTS	Hours	Lecturers
<b>252-0002-AAL</b>	<b>Data Structures and Algorithms</b>	<b>E-</b>	<b>8 credits</b>	<b>15R</b>	
	<i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>				
	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>				
252-0002-AA R	Data Structures and Algorithms			210s hrs	<b>F. O. Friedrich Wicker</b>
	<i>Self-study course. No presence required.</i>				
<b>252-0856-AAL</b>	<b>Computer Science</b>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	
	<i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>				
	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>				
252-0856-AA R	Computer Science			120s hrs	<b>F. O. Friedrich Wicker, R. Sasse</b>
	<i>Self-study course. No presence required.</i>				
<b>406-0603-AAL</b>	<b>Stochastics (Probability and Statistics)</b>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	
	<i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>				
	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>				

406-0603-AA R	Stochastics (Probability and Statistics) <i>Self-study course. No presence required.</i>			120s hrs	<b>M. Kalisch</b>
<b>262-0945-AAL</b>	<b>Cell and Molecular Biology for Engineers I and II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>6 credits</b>	<b>13R</b>	
262-0945-AA R	Cell and Molecular Biology for Engineers I and II <i>Self-study course. No presence required.</i>			180s hrs	<b>B. Treutlein</b>
<b>636-1005-AAL</b>	<b>Bio V: Bioinformatics</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>5 credits</b>	<b>7R</b>	
636-1005-AA R	Bio V: Bioinformatics <i>Self-study course. No presence required.</i> <i>For MSc Biotech: Only offered in spring semester (calendar weeks 24-27).</i>			100s hrs	<b>N. Beerenwinkel</b>

#### Computational Biology and Bioinformatics Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■          Special students and auditors need special permission from the lecturers.

# Cyber Security Master

## ► Field of Specialization

### ►► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0463-00L</b>	<b>Security Engineering</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-0463-00 V	Security Engineering			2 hrs	Wed	10-12	CAB G51	<b>S. Krstic</b>
252-0463-00 U	Security Engineering			2 hrs	Wed	14-16	CAB G51	<b>S. Krstic</b>
	<i>Lab sessions every Friday in CAB H52 from 10-12</i>				Fri	10-12	CAB H52	
252-0463-00 A	Security Engineering			2 hrs				<b>S. Krstic</b>
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	<b>S. Capkun, A. Perrig</b>
252-1414-00 U	System Security			2 hrs	Thu	14-16	HG D3.2	<b>S. Capkun, A. Perrig</b>
	<i>The exercises begin in the second week of the semester.</i>					16-18	CAB G11	
252-1414-00 A	System Security			2 hrs				<b>S. Capkun, A. Perrig</b>
<b>263-4640-00L</b>	<b>Network Security</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U+3A</b>				
263-4640-00 V	Network Security			2 hrs	Tue	10-12	HG E1.2	<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
263-4640-00 U	Network Security			2 hrs	Thu	16-18	CAB G61	<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
263-4640-00 A	Network Security			3 hrs				<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
	<i>Project Work, no fixed presence required.</i>							

### ►► Electives

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0575-00L</b>	<b>Advanced Topics in Communication Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0575-00 V	Advanced Topics in Communication Networks			2 hrs	Tue	14-16	ML E12	<b>L. Vanbever</b>
227-0575-00 U	Advanced Topics in Communication Networks			2 hrs	Tue	16-18	ML E12	<b>L. Vanbever</b>
<b>227-0579-00L</b>	<b>Hardware Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
227-0579-00 V	Hardware Security			2 hrs	Tue	08-10	HG E41	<b>K. Razavi</b>
	<i>An informal meeting is planned for Friday, 17 December between 5 - 7 pm. The exact room will be announced later. Please note that the classes of October 5 and October 19 take place from 08:00 - 11:00 instead of 08:00 - 10:00 in ETZ G71.2.</i>							
227-0579-00 U	Hardware Security			2 hrs	Thu	10-12	IFW A32.1	<b>K. Razavi</b>
227-0579-00 A	Hardware Security			2 hrs				<b>K. Razavi</b>
	<i>Project Work, no fixed presence required.</i>							
<b>252-0811-00L</b>	<b>Applied Security Laboratory</b>	<b>W</b>	<b>8 credits</b>	<b>7P</b>				
252-0811-00 P	Applied Security Laboratory			7 hrs	Thu	10-13	LEE D101	<b>C. Sprenger</b>
<b>252-1411-00L</b>	<b>Security of Wireless Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>				
252-1411-00 V	Security of Wireless Networks			2 hrs	Tue	14-16	ML F34	<b>S. Capkun, K. Kostianen</b>
252-1411-00 U	Security of Wireless Networks			1 hrs	Fri/2w	14-16	CAB E87.2	<b>S. Capkun, K. Kostianen</b>
252-1411-00 A	Security of Wireless Networks			2 hrs				<b>S. Capkun, K. Kostianen</b>
	<i>includes a semester long project</i>							
<b>263-4657-00L</b>	<b>Advanced Encryption Schemes</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>				
263-4657-00 V	Advanced Encryption Schemes			2 hrs	Thu	12-14	CAB G59	<b>R. Gay</b>
263-4657-00 U	Advanced Encryption Schemes			1 hrs	Wed/2w	16-17	HG E33.5	<b>R. Gay</b>
263-4657-00 A	Advanced Encryption Schemes			1 hrs				<b>R. Gay</b>
<b>263-4665-00L</b>	<b>Zero-Knowledge Proofs</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>				
	<i>Number of participants limited to 50.</i>							
263-4665-00 V	Zero-Knowledge Proofs			2 hrs	Fri	12-14	CHN G42	<b>J. Bootle</b>
263-4665-00 U	Zero-Knowledge Proofs			1 hrs	Fri	15-16	CHN F42	<b>J. Bootle</b>
263-4665-00 A	Zero-Knowledge Proofs			1 hrs				<b>J. Bootle</b>

### ►► Seminar

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-4601-00L</b>	<b>Current Topics in Information Security</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>				
	<i>Number of participants limited to 24.</i>							
	<i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>							
252-4601-00 S	Current Topics in Information Security			2 hrs	Mon	14-16	CAB G57	<b>S. Capkun, K. Paterson, A. Perrig, S. Shinde</b>
	<i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>							

### ► Semester Project

Number	Title	Type	ECTS	Hours				Lecturers
--------	-------	------	------	-------	--	--	--	-----------

<b>260-0100-00L</b>	<b>Semester Project</b> <i>Only for Cyber Security MSc</i>	<b>W</b>	<b>12 credits</b>	<b>26A</b>				
260-0100-00 A	Semester Project			360s hrs				Professors

## ► Minor

## ►► Data Management Systems

## ►►► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>263-3010-00L</b>	<b>Big Data</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
263-3010-00 V	Big Data <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue Wed	14-16 09-10	CAB G61 ML H44	<b>G. Fourny</b>
263-3010-00 U	Big Data <i>Groups are selected in myStudies.</i>			2 hrs	Wed	14-16	CAB G52 HG E33.1 HG G26.1 ON LINE CAB G52 ON LINE	<b>G. Fourny</b>
263-3010-00 A	Big Data <i>Individual work to get hands-on experience with the technologies covered, no fixed presence required.</i>			4 hrs	Fri	14-16		<b>G. Fourny</b>
<b>263-3845-00L</b>	<b>Data Management Systems</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-3845-00 V	Data Management Systems			3 hrs	Wed Fri	10-12 08-09	CAB G61 HG G3	<b>G. Alonso</b>
263-3845-00 U	Data Management Systems			1 hrs	Fri	09-10	HG D5.1 HG E21 HG G26.1	<b>G. Alonso</b>
263-3845-00 A	Data Management Systems			3 hrs				<b>G. Alonso</b>

## ►►► Elective Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed Thu Fri	14-16 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	<b>S. Capkun, A. Perrig</b>
252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>			2 hrs	Thu	14-16 16-18	HG D3.2 CAB G11	<b>S. Capkun, A. Perrig</b>
252-1414-00 A	System Security			2 hrs				<b>S. Capkun, A. Perrig</b>
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance Computing</b> <i>Number of participants limited to 125.</i>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>				
263-2800-00 V	Design of Parallel and High-Performance Computing			3 hrs	Mon	13-16	CAB G11	<b>T. Hoefler, M. Püschel</b>
263-2800-00 U	Design of Parallel and High-Performance Computing			2 hrs	Thu	14-16	CHN C14	<b>T. Hoefler, M. Püschel</b>
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>			3 hrs				<b>T. Hoefler, M. Püschel</b>
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-3210-00 V	Deep Learning			3 hrs	Wed Thu	13-14 14-16	ML D28 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 U	Deep Learning			2 hrs	Mon Wed	16-18 16-18	HG G5 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 A	Deep Learning			2 hrs				<b>F. Perez Cruz, A. Lucchi</b>
<b>263-3850-00L</b>	<b>Informal Methods</b>	<b>W</b>	<b>5 credits</b>	<b>2G+2A</b>				
263-3850-00 G	Informal Methods			2 hrs	Thu	10-12	CAB G59	<b>D. Cock</b>
263-3850-00 A	Informal Methods			2 hrs				<b>D. Cock</b>

## ►► Machine Intelligence

## ►►► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann,</b> C. Cotrini Jimenez



252-0535-00 U	Advanced Machine Learning		2 hrs	Wed	14-16	CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
				Thu	16-18	CAB G61	
				Fri	16-18	ML F34	
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>		4 hrs		14-16	CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
263-3210-00 V	Deep Learning		3 hrs	Wed	13-14	ML D28	<b>F. Perez Cruz,</b> A. Lucchi
				Thu	14-16	ML D28	
263-3210-00 U	Deep Learning		2 hrs	Mon	16-18	HG G5	<b>F. Perez Cruz,</b> A. Lucchi
				Wed	16-18	ML D28	
263-3210-00 A	Deep Learning		2 hrs				<b>F. Perez Cruz,</b> A. Lucchi
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>		3 hrs	Fri	10-12	ETA F5 ETF E1	<b>A. Krause</b>
					13-14	ETA F5 ETF E1	
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>		2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>
263-5210-00 A	Probabilistic Artificial Intelligence		2 hrs				<b>A. Krause</b>
<b>▶▶▶ Elective Courses</b>							
Number	Title	Type	ECTS	Hours			Lecturers
<b>252-3005-00L</b>	<b>Natural Language Processing</b> <i>Number of participants limited to 400.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>			
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>		2 hrs	Mon	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 U	Natural Language Processing		2 hrs	Wed	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 A	Natural Language Processing		1 hrs				<b>R. Cotterell</b>
<b>261-5100-00L</b>	<b>Computational Biomedicine</b> <i>Number of participants limited to 120.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>			
261-5100-00 V	Computational Biomedicine <i>Online lecture: This lecture will take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>		2 hrs	Tue	10-12	ML F39	<b>V. Boeva, G. Rätsch</b>
261-5100-00 U	Computational Biomedicine <i>Online lecture: This lecture will take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>		1 hrs	Tue	13-14	ML F39	<b>V. Boeva, G. Rätsch</b>
261-5100-00 A	Computational Biomedicine		1 hrs				<b>V. Boeva, G. Rätsch</b>
<b>263-2400-00L</b>	<b>Reliable and Trustworthy Artificial Intelligence</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U+1A</b>			
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Wed	14-16	HG G3	<b>M. Vechev</b>
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Mon	12-14	CAB G56	<b>M. Vechev</b>
				Wed	12-14	CAB G51	
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence		1 hrs				<b>M. Vechev</b>
<b>263-4500-00L</b>	<b>Advanced Algorithms</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>			
263-4500-00 V	Advanced Algorithms <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		3 hrs	Wed	09-12	HG D5.2	<b>M. Ghaffari,</b> G. Zuzic
263-4500-00 U	Advanced Algorithms		2 hrs	Fri	10-12	CAB G59	<b>M. Ghaffari,</b> G. Zuzic
263-4500-00 A	Advanced Algorithms		3 hrs				<b>M. Ghaffari,</b> G. Zuzic
<b>263-5005-00L</b>	<b>Artificial Intelligence in Education</b> <i>Number of participants limited to 75.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>			
263-5005-00 V	Artificial Intelligence in Education <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Thu	16-18	RZ F21	<b>M. Sachan,</b> T. Sinha
263-5005-00 U	Artificial Intelligence in Education <i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>		1 hrs	Thu	18-19	RZ F21	<b>M. Sachan,</b> T. Sinha
263-5005-00 A	Artificial Intelligence in Education		1 hrs				<b>M. Sachan,</b> T. Sinha
<b>263-5255-00L</b>	<b>Foundations of Reinforcement Learning</b> <i>Number of participants limited to 190.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2A</b>			
263-5255-00 V	Foundations of Reinforcement Learning		2 hrs	Fri	14-16	CAB G11	<b>N. He</b>
263-5255-00 A	Foundations of Reinforcement Learning		2 hrs				<b>N. He</b>
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>			

263-5902-00 V	Computer Vision	3 hrs	Wed	14-16	NO C60	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 U	Computer Vision	1 hrs	Thu	12-13	HG G5	<b>M. Pollefeys, S. Tang, F. Yu</b>
			Thu	13-14	CAB G51	
263-5902-00 A	Computer Vision	3 hrs	Fri	13-14	CAB G51	<b>M. Pollefeys, S. Tang, F. Yu</b>

## ►► Theoretical Computer Science

### ►►► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
252-0417-00L	Randomized Algorithms and Probabilistic Methods	W	10 credits	3V+2U+4A				
252-0417-00 V	Randomized Algorithms and Probabilistic Methods			3 hrs	Wed Thu	08-09 16-18	ML D28 ML D28	A. Steger
252-0417-00 U	Randomized Algorithms and Probabilistic Methods			2 hrs	Tue	14-16 16-18	HG D1.2 HG D1.2	A. Steger
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>			4 hrs				A. Steger
252-0535-00L	Advanced Machine Learning	W	10 credits	3V+2U+4A				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3</i> <i>Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu  Fri	15-16  08-10	ETA F5 ETF E1 HG F1 HG F3	J. M. Buhmann, C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed  Thu Fri	14-16 16-18 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	J. M. Buhmann, C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				J. M. Buhmann, C. Cotrini Jimenez
252-1425-00L	Geometry: Combinatorics and Algorithms	W	8 credits	3V+2U+2A				
252-1425-00 V	Geometry: Combinatorics and Algorithms			3 hrs	Mon Thu	13-14 14-16	CAB G51 CAB G51	B. Gärtner, E. Welzl, M. Hoffmann, M. Wettstein
252-1425-00 U	Geometry: Combinatorics and Algorithms			2 hrs	Mon 23.09. 30.09.	14-16 16-18 16-18	CAB G51 CAB G51 CAB G51	B. Gärtner, E. Welzl, M. Hoffmann, M. Wettstein
252-1425-00 A	Geometry: Combinatorics and Algorithms <i>Project Work, no fixed presence required.</i>			2 hrs				B. Gärtner, E. Welzl, M. Hoffmann, M. Wettstein
263-4500-00L	Advanced Algorithms	W	9 credits	3V+2U+3A				
263-4500-00 V	Advanced Algorithms <i>Online lecture: This lecture will primarily take place online.</i> <i>Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Wed	09-12	HG D5.2	M. Ghaffari, G. Zuzic
263-4500-00 U	Advanced Algorithms			2 hrs	Fri	10-12	CAB G59	M. Ghaffari, G. Zuzic
263-4500-00 A	Advanced Algorithms			3 hrs				M. Ghaffari, G. Zuzic

### ►►► Elective Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-1407-00L</b>	<b>Algorithmic Game Theory</b>	<b>W</b>	<b>7 credits</b>	<b>3V+2U+1A</b>				
252-1407-00 V	Algorithmic Game Theory			3 hrs	Fri	10-13	CHN C14	<b>P. Penna</b>
252-1407-00 U	Algorithmic Game Theory			2 hrs	Tue	10-12	CAB G57 CAB G59 LFW B3	<b>P. Penna</b>
252-1407-00 A	Algorithmic Game Theory <i>Project Work, no fixed presence required.</i>			1 hrs				<b>P. Penna</b>
<b>227-0417-00L</b>	<b>Information Theory I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0417-00 G	Information Theory I			4 hrs	Wed	14-18	ETF C1	<b>A. Lapidoth</b>
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
401-3055-64 V	Algebraic Methods in Combinatorics			2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>
401-3055-64 U	Algebraic Methods in Combinatorics			1 hrs	Mon	12-13 13-14	ML F34 ML F34	<b>B. Sudakov</b>
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>				
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	<b>R. Zenklusen</b>
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>			2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>

## ►► Visual and Interactive Computing

### ►►► Core Courses

Number	Title	Type	ECTS	Hours			Lecturers
<b>252-0543-01L</b>	<b>Computer Graphics</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
252-0543-01 V	Computer Graphics <i>Does not take place this semester.</i>			3 hrs			

252-0543-01 U	Computer Graphics <i>Does not take place this semester.</i>			2 hrs				
252-0543-01 A	Computer Graphics <i>Does not take place this semester.</i>			2 hrs				
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-5902-00 V	Computer Vision			3 hrs	Wed Thu	14-16 12-13	NO C60 HG G5	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 U	Computer Vision			1 hrs	Thu Fri	13-14 13-14	CAB G51 CAB G51	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 A	Computer Vision			3 hrs				<b>M. Pollefeys, S. Tang, F. Yu</b>

### ▶▶▶ Elective Courses

Number	Title	Type	ECTS	Hours				Lecturers
252-0546-00L	Physically-Based Simulation in Computer Graphics	W	5 credits	2V+1U+1A				
252-0546-00 V	Physically-Based Simulation in Computer Graphics			2 hrs	Tue	10-12	CAB G51	V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
252-0546-00 U	Physically-Based Simulation in Computer Graphics			1 hrs	Tue	16-17	CAB G51	V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
252-0546-00 A	Physically-Based Simulation in Computer Graphics			1 hrs				V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
263-5905-00L	Mixed Reality	W	5 credits	3G+1A				
263-5905-00 G	Mixed Reality			3 hrs	Mon	10-13	CAB G11	I. Armeni, F. Bogo, M. Pollefeys
263-5905-00 A	Mixed Reality			1 hrs				I. Armeni, F. Bogo, M. Pollefeys

### ▶ Interfocus Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>263-0006-00L</b>	<b>Algorithms Lab</b> <i>Only for master students!</i>	<b>W</b>	<b>8 credits</b>	<b>4P+3A</b>				
263-0006-00 P	Algorithms Lab			4 hrs	Mon	14-16	CAB H57 HG E26.1 HG E26.3	<b>A. Steger, E. Welzl</b>
					Tue Wed Thu	16-18 16-18 16-18	ML H34.3 CAB G11 ML H34.3	
263-0006-00 A	Algorithms Lab <i>Project Work, no fixed presence required.</i>			3 hrs				
<b>263-0009-00L</b>	<b>Information Security Lab</b> <i>Only for master students!</i> <i>Number of participants limited to 250.</i>	<b>W</b>	<b>8 credits</b>	<b>2V+1U+3P+1A</b>				
263-0009-00 V	Information Security Lab			2 hrs	Mon	16-18	ML D28	<b>K. Paterson</b> , S. Capkun, D. Hofheinz, A. Perrig, S. Shinde
263-0009-00 U	Information Security Lab			1 hrs	Tue Wed	16-17 08-09	CHN F46 CAB G11	<b>K. Paterson</b> , S. Capkun, D. Hofheinz, A. Perrig, S. Shinde
263-0009-00 P	Information Security Lab			3 hrs	Thu	16-19	CAB H56 CAB H57 CHN E42 CHN G42 ETZ E6	<b>K. Paterson</b> , S. Capkun, D. Hofheinz, A. Perrig, S. Shinde
263-0009-00 A	Information Security Lab			1 hrs				<b>K. Paterson</b> , S. Capkun, D. Hofheinz, A. Perrig, S. Shinde

### ▶ Free Electives

*All Master level courses offered by ETH Zurich, EPF Lausanne and the University of Zurich may be chosen.*

*Course Catalogue of ETH Zurich*

### ▶ GESS Science in Perspective

*see GESS Science in Perspective:  
Language Courses ETH/UZH*

*see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended GESS Science in  
Perspective (Type B) for D-INFK.*

### ▶ Internship

Number	Title	Type	ECTS	Hours					Lecturers
<b>260-0700-00L</b>	<b>Internship</b> <i>Only for Cyber Security MSc</i>	<b>E-</b>	<b>0 credits</b>						
260-0700-00 P	Internship								external organisers

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
260-0800-00L	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>	O	30 credits	64D	
260-0800-00 D	Master's Thesis ■			900s hrs by appt.	Professors

### Cyber Security Master - Key for Type

W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory
Z	Courses outside the curriculum	W+	Eligible for credits and recommended

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
 Special students and auditors need special permission from the lecturers.

# DAS in Applied Statistics

## ► Compulsory Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>447-0649-01L</b>	<b>Applied Statistical Regression I</b> <i>Only for DAS and CAS in Applied Statistics.</i>	<b>O</b>	<b>4 credits</b>	<b>1V+1U</b>					
447-0649-01 V	Angewandte statistische Regression I			18s hrs	Mon/1 20.09.	08-10 08-10	HG E1.1 HG E1.1		<b>M. Tanadini</b>
447-0649-01 U	Angewandte statistische Regression I			18s hrs	Mon/1 20.09.	10-12 10-12	HG E19 HG E19		<b>M. Tanadini</b>
<b>447-0649-02L</b>	<b>Applied Statistical Regression II</b> <i>Only for DAS and CAS in Applied Statistics.</i>	<b>O</b>	<b>2 credits</b>	<b>1V+1U</b>					
447-0649-02 V	Angewandte statistische Regression II			10s hrs	Mon/2	08-10	HG E1.1		<b>C. Renaux</b>
447-0649-02 U	Angewandte statistische Regression II			10s hrs	Mon/2	10-12	HG E19		<b>C. Renaux</b>
<b>447-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design I</b> <i>Only for DAS and CAS in Applied Statistics.</i>	<b>O</b>	<b>3 credits</b>	<b>1V+1U</b>					
447-0625-01 V	Applied Analysis of Variance and Experimental Design I			14s hrs	Mon/1	14-16	HG G5		<b>L. Meier</b>
447-0625-01 U	Applied Analysis of Variance and Experimental Design I			14s hrs	Mon/1	16-18	HG D11 HG D12 HG E1.2		<b>L. Meier</b>
<b>447-6201-00L</b>	<b>Nonparametric and Resampling Methods</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	<b>O</b>	<b>2 credits</b>	<b>2G</b>					
447-6201-00 G	Nonparametric and Resampling Methods <i>Block course on: 17.01.2022 / 24.01.2022 / 31.01.2022 Lectures: 8-10 and 14-16 Exercises: 10-12 and 16-18</i>			21s hrs	17.01. 24.01. 31.01.	08-18 08-18 08-18	HG D1.1 HG D1.1 HG D1.1		<b>L. Meier, D. Kuonen</b>
<b>447-0990-00L</b>	<b>Workshop</b> <i>Only for DAS in Applied Statistics.</i>	<b>O</b>	<b>1 credit</b>	<b>1S</b>					
447-0990-00 S	Workshop (DAS ETH in Angewandter Statistik) ■ <i>Programm: <a href="https://stat.ethz.ch/Teaching/WBL/Source-WBL-8/04.Workshop/workshop.pdf">https://stat.ethz.ch/Teaching/WBL/Source-WBL-8/04.Workshop/workshop.pdf</a></i>			1 hrs	Mon	13-14	HG G19.1		<b>L. Meier</b>

## ► Electives

Number	Title	Type	ECTS	Hours					Lecturers
<b>447-0625-02L</b>	<b>Applied Analysis of Variance and Experimental Design II</b> <i>Only for DAS and CAS in Applied Statistics.</i>	<b>W</b>	<b>3 credits</b>	<b>1V+1U</b>					
447-0625-02 V	Applied Analysis of Variance and Experimental Design II			12s hrs	Mon/2	14-16	HG G5		<b>L. Meier</b>
447-0625-02 U	Applied Analysis of Variance and Experimental Design II			12s hrs	Mon/2	16-18	HG D11 HG D12 HG E1.2		<b>L. Meier</b>
<b>447-6221-00L</b>	<b>Nonparametric Regression</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	<b>W</b>	<b>1 credit</b>	<b>1G</b>					
447-6221-00 G	Nichtparametrische Regression ■ <i>Does not take place this semester. Blockkurs. Weitere Informationen unter <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			10.5s hrs					<b>M. Mächler</b>
<b>447-6257-00L</b>	<b>Repeated Measures</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	<b>W</b>	<b>1 credit</b>	<b>1G</b>					
447-6257-00 G	Wiederholte Messungen ■ <i>Does not take place this semester. Blockkurs. Weitere Informationen unter <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			10.5s hrs					
<b>447-6289-00L</b>	<b>Sampling Surveys</b> <i>Special Students "University of Zurich</i>	<b>W</b>	<b>2 credits</b>	<b>1G</b>					

(UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to [registrar@ethz.ch](mailto:registrar@ethz.ch). The Registrar's Office will then register you for the course.

447-6289-00 G Stichproben-Erhebungen ■ 17.5s hrs  
Does not take place this semester.  
Blockkurs. Weitere Informationen unter <http://stat.ethz.ch/wbl/wbl>

**447-6265-00L Deep Learning: A Probabilistic Approach** W 2 credits 1G  
Only for DAS and CAS in Applied Statistics.

447-6265-00 G Deep Learning: Ein probabilistischer Ansatz ■ 19.5s hrs  
Does not take place this semester.

**447-6233-00L Spatial Statistics** W 1 credit 1G

Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to [registrar@ethz.ch](mailto:registrar@ethz.ch). The Registrar's Office will then register you for the course.

447-6233-00 G Spatial Statistics ■ 10.5s hrs  
Does not take place this semester.  
Block course. For further information see <http://stat.ethz.ch/wbl/wbl>

**447-6245-00L Data Mining** W 1 credit 1G

Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to [registrar@ethz.ch](mailto:registrar@ethz.ch). The Registrar's Office will then register you for the course.

447-6245-00 G Data-Mining ■ 14s hrs  
Does not take place this semester.  
Blockkurs. Weitere Informationen unter <http://stat.ethz.ch/wbl/wbl>

M. Mächler

**447-6273-00L Bayes Methods** W 2 credits 2G

Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to [registrar@ethz.ch](mailto:registrar@ethz.ch). The Registrar's Office will then register you for the course.

447-6273-00 G Bayes-Methoden ■ 21s hrs  
Does not take place this semester.  
Blockkurs. Weitere Informationen unter <http://stat.ethz.ch/wbl/wbl>

**447-6191-00L Statistical Analysis of Financial Data** W 2 credits 1G

Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to [registrar@ethz.ch](mailto:registrar@ethz.ch). The Registrar's Office will then register you for the course.

447-6191-00 G Statistical Analysis of Financial Data ■ 17.5s hrs  
Does not take place this semester.  
Block course. For further information see <http://stat.ethz.ch/wbl/wbl>

## ► Diploma Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>447-1990-00L</b>	<b>Diploma Thesis</b>	<b>O</b>	<b>2 credits</b>	<b>4D</b>	
	Only for DAS in Applied Statistics.				
447-1990-00 D	Diplomarbeit (DAS ETH in Angewandter Statistik)			60s hrs	Supervisors

**DAS in Applied Statistics - Key for Type**

W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory
Z	Courses outside the curriculum	W+	Eligible for credits and recommended

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# DAS in Cyber Security

## ► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
252-1414-00L	System Security	O	7 credits	2V+2U+2A				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	S. Capkun, A. Perrig
252-1414-00 U	System Security			2 hrs	Thu	14-16	HG D3.2	S. Capkun, A. Perrig
	The exercises begin in the second week of the semester.							
						16-18	CAB G11	
252-1414-00 A	System Security			2 hrs				S. Capkun, A. Perrig
263-4640-00L	Network Security	O	8 credits	2V+2U+3A				
263-4640-00 V	Network Security			2 hrs	Tue	10-12	HG E1.2	A. Perrig, S. Frei, M. Legner, K. Paterson
263-4640-00 U	Network Security			2 hrs	Thu	16-18	CAB G61	A. Perrig, S. Frei, M. Legner, K. Paterson
263-4640-00 A	Network Security			3 hrs				A. Perrig, S. Frei, M. Legner, K. Paterson
	Project Work, no fixed presence required.							
268-0101-00L	Introduction to Information Security	O	5 credits	4G				
	Only for CAS and DAS in Cyber Security.							
268-0101-00 G	Introduction to Information Security			4 hrs	Fri	08-12	HG E22	P. Schaller, S. Matetic
268-0102-00L	Applied Security Laboratory	O	5 credits	3P				
	Only for DAS in Cyber Security.							
268-0102-00 P	Applied Security Laboratory			3 hrs	Thu	10-13	LEE D101	C. Sprenger

## ► Elective Courses

Number	Title	Type	ECTS	Hours				Lecturers
252-0463-00L	Security Engineering	W	7 credits	2V+2U+2A				
252-0463-00 V	Security Engineering			2 hrs	Wed	10-12	CAB G51	S. Krstic
252-0463-00 U	Security Engineering			2 hrs	Wed	14-16	CAB G51	S. Krstic
	Lab sessions every Friday in CAB H52 from 10-12				Fri	10-12	CAB H52	
252-0463-00 A	Security Engineering			2 hrs				S. Krstic
252-1411-00L	Security of Wireless Networks	W	6 credits	2V+1U+2A				
252-1411-00 V	Security of Wireless Networks			2 hrs	Tue	14-16	ML F34	S. Capkun, K. Kostiainen
252-1411-00 U	Security of Wireless Networks			1 hrs	Fri/2w	14-16	CAB E87.2	S. Capkun, K. Kostiainen
252-1411-00 A	Security of Wireless Networks			2 hrs				S. Capkun, K. Kostiainen
	includes a semester long project							
268-0201-00L	Information Security Seminar and Project	W	2 credits	2S				
	Only for CAS and DAS in Cyber Security.							
268-0201-00 S	Information Security Seminar and Project			2 hrs	Fri	14-16	HG E22	S. Matetic
268-0202-00L	Contemporary Topics in Cyber Security	W	3 credits	2G				
	Only for CAS and DAS in Cyber Security.							
268-0202-00 G	Contemporary Topics in Cyber Security			2 hrs	Fri	16-18	HG E22	S. Matetic

## DAS in Cyber Security - Key for Type

W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory
Z	Courses outside the curriculum	W+	Eligible for credits and recommended

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.



# DAS in Data Science

## ► Core Courses

## ►► Foundations Courses

Number	Title	Type	ECTS	Hours				Lecturers
227-0105-00L	<b>Introduction to Estimation and Machine Learning</b>	W	6 credits	4G				
227-0105-00 G	Introduction to Estimation and Machine Learning ■			4 hrs	Fri	14-18	ETF C1	H.-A. Loeliger

## ►► Capstone Project

Number	Title	Type	ECTS	Hours				Lecturers
266-0100-00L	<b>Capstone Project</b> <i>Only for DAS in Data Science.</i>	O	8 credits	17A				
266-0100-00 A	Capstone Project			240s hrs				Supervisors

## ► Specialisation Track

## ►► Hardware for Machine Learning

*Offered in the Spring Semester.*

Number	Title	Type	ECTS	Hours				Lecturers
227-0155-00L	<b>Machine Learning on Microcontrollers</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to 25. Preference is given to students in the MSc EEIT.</i>	W	6 credits	3G				
227-0155-00 G	Machine Learning on Microcontrollers ■ <i>Permission from lecturers required for all students</i>			3 hrs	Mon 27.09.	13-16 13-16	LFO C13 ETZ K63	M. Magno, L. Benini

## ►► Image Analysis & Computer Vision

Number	Title	Type	ECTS	Hours				Lecturers
263-5902-00L	<b>Computer Vision</b>	W	8 credits	3V+1U+3A				
263-5902-00 V	Computer Vision			3 hrs	Wed	14-16	NO C60 HG G5	M. Pollefeys, S. Tang, F. Yu
263-5902-00 U	Computer Vision			1 hrs	Thu	12-13		
263-5902-00 U	Computer Vision			1 hrs	Fri	13-14	CAB G51	M. Pollefeys, S. Tang, F. Yu
263-5902-00 A	Computer Vision			3 hrs			CAB G51	M. Pollefeys, S. Tang, F. Yu

## ►► Neural Information Processing

Number	Title	Type	ECTS	Hours				Lecturers
227-0421-00L	<b>Deep Learning in Artificial and Biological Neuronal Networks</b>	W	4 credits	3G				
227-0421-00 G	Deep Learning in Artificial and Biological Neuronal Networks			3 hrs	Wed	09-12	ML F34	<b>B. Grewe</b>
227-1033-00L	<b>Neuromorphic Engineering I</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>  <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module INI404 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	W	6 credits	2V+3U				
227-1033-00 V	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich** The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Mon	14-16	ON LINE	<b>T. Delbrück</b> , G. Indiveri, S.-C. Liu
227-1033-00 U	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich**  Dates by arrangement.</i>			3 hrs	by appt.			<b>T. Delbrück</b> , G. Indiveri, S.-C. Liu

## ►► Statistics

Number	Title	Type	ECTS	Hours				Lecturers
401-0625-01L	<b>Applied Analysis of Variance and Experimental Design</b>	W	5 credits	2V+1U				
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon	14-16	HG G5	L. Meier
401-0625-01 U	Applied Analysis of Variance and Experimental Design			1 hrs	Mon/2w	16-18	HG E1.1	L. Meier

<b>401-0649-00L</b>	<b>Applied Statistical Regression</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon	08-10	HG E1.2	<b>M. Dettling</b>	
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>			1 hrs	Mon/2w	10-12	HG E1.2	<b>M. Dettling</b>	
<b>401-3612-00L</b>	<b>Stochastic Simulation</b>	<b>W</b>	<b>5 credits</b>	<b>3G</b>					
401-3612-00 G	Stochastic Simulation <i>Does not take place this semester.</i>			3 hrs					
<b>401-3621-00L</b>	<b>Fundamentals of Mathematical Statistics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>					
401-3621-00 V	Fundamentals of Mathematical Statistics			4 hrs	Tue	08-10	HG E5	<b>S. van de Geer</b>	
					Wed	10-12	HG E7		
401-3621-00 U	Fundamentals of Mathematical Statistics			1 hrs	Tue	12-13	HG D7.1	<b>S. van de Geer</b>	
							HG E7		
<b>401-3622-00L</b>	<b>Statistical Modelling</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-3622-00 G	Statistical Modelling			4 hrs	Mon	10-12	ML D28	<b>C. Heinze-Deml</b>	
					Thu	14-16	HG E1.1		
<b>401-3628-14L</b>	<b>Bayesian Statistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3628-14 V	Bayesian Statistics			2 hrs	Tue	16-18	HG G3	<b>F. Sigrist</b>	
<b>401-4623-00L</b>	<b>Time Series Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
401-4623-00 G	Time Series Analysis <i>Does not take place this semester.</i>			3 hrs				<b>F. Balabdaoui</b>	

## ►► Machine Learning and Artificial Intelligence

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0689-00L</b>	<b>System Identification</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
227-0689-00 V	System Identification			2 hrs	Wed	10-12	HG D7.1	<b>R. Smith</b>	
227-0689-00 U	System Identification			1 hrs	Wed	12-13	ETZ D61.1	<b>R. Smith</b>	
							HG D7.1		
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>					
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3</i> <i>Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu	15-16	ETA F5	<b>J. M. Buhmann,</b>	
					Fri	08-10	ETF E1	C. Cotrini Jimenez	
							HG F1		
							HG F3		
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed	14-16	CAB G61	<b>J. M. Buhmann,</b>	
							CAB G61	C. Cotrini Jimenez	
					Thu	16-18	ML F34		
					Fri	14-16	CAB G61		
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				<b>J. M. Buhmann,</b>	
								C. Cotrini Jimenez	
<b>252-3005-00L</b>	<b>Natural Language Processing</b>	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>					
	<i>Number of participants limited to 400.</i>								
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>			2 hrs	Mon	12-14	HG F7	<b>R. Cotterell</b>	
252-3005-00 U	Natural Language Processing			2 hrs	Wed	12-14	HG F7	<b>R. Cotterell</b>	
252-3005-00 A	Natural Language Processing			1 hrs				<b>R. Cotterell</b>	
<b>263-2400-00L</b>	<b>Reliable and Trustworthy Artificial Intelligence</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U+1A</b>					
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG G3	<b>M. Vechev</b>	
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester.</i> <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	12-14	CAB G56	<b>M. Vechev</b>	
					Wed	12-14	CAB G51		
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence			1 hrs				<b>M. Vechev</b>	
<b>263-3210-00L</b>	<b>Deep Learning</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
	<i>Number of participants limited to 320.</i>								
263-3210-00 V	Deep Learning			3 hrs	Wed	13-14	ML D28	<b>F. Perez Cruz,</b>	A. Lucchi
					Thu	14-16	ML D28		
263-3210-00 U	Deep Learning			2 hrs	Mon	16-18	HG G5	<b>F. Perez Cruz,</b>	A. Lucchi
					Wed	16-18	ML D28		
263-3210-00 A	Deep Learning			2 hrs				<b>F. Perez Cruz,</b>	A. Lucchi
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>			3 hrs	Fri	10-12	ETA F5	<b>A. Krause</b>	
							ETF E1		
							ETA F5		
							ETF E1		
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>			2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>	
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs				<b>A. Krause</b>	

## ►► Big Data Systems

Number	Title	Type	ECTS	Hours					Lecturers
--------	-------	------	------	-------	--	--	--	--	-----------

<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	14-16	HG E5	<b>G. Fourny</b>	
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE	<b>G. Fourny</b>	
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance Computing</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>					
	<i>Number of participants limited to 125.</i>								
263-2800-00 V	Design of Parallel and High-Performance Computing			3 hrs	Mon	13-16	CAB G11	<b>T. Hoefler, M. Püschel</b>	
263-2800-00 U	Design of Parallel and High-Performance Computing			2 hrs	Thu	14-16	CHN C14	<b>T. Hoefler, M. Püschel</b>	
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>			3 hrs				<b>T. Hoefler, M. Püschel</b>	
<b>263-3010-00L</b>	<b>Big Data</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>					
263-3010-00 V	Big Data <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue Wed	14-16 09-10	CAB G61 ML H44	<b>G. Fourny</b>	
263-3010-00 U	Big Data <i>Groups are selected in myStudies.</i>			2 hrs	Wed  Fri	14-16  14-16	CAB G52 HG E33.1 HG G26.1 ON LINE CAB G52 ON LINE	<b>G. Fourny</b>	
263-3010-00 A	Big Data <i>Individual work to get hands-on experience with the technologies covered, no fixed presence required.</i>			4 hrs				<b>G. Fourny</b>	

#### DAS in Data Science - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# DAS in Information Technology and Electrical Engineering

## ► Subjects of Specialization

*Subjects are to be chosen from the courses offered in the master degree program in electrical engineering and information technology. The director of studies decides on exceptions, upon consultation with the tutor.*

*Course offer from the Master Program in  
Electrical Engineering and Information  
Technology*

## ► Diploma Project

Number	Title	Type	ECTS	Hours	Lecturers
227-1101-00L	<b>How to Write Scientific Texts</b> <i>Strongly recommended prerequisite for Semester Projects and Master Theses at D-ITET (MSc BME, MSc EEIT, MSc EST).</i>	E-	0 credits		
227-1101-00 S	How to Write Scientific Texts <i>Room to be announced</i>			4s hrs 04.11. 16-18 11.11. 16-18	n /a n /a <b>U. Koch</b>
227-3001-00L	<b>Diploma Thesis</b> <i>Only for DAS in Information Technology and Electrical Engineering.</i>  <i>Registration for the diploma thesis requires the successful completion of 18 credits ECTS from subjects of specialization.</i>	O	12 credits	36D	
227-3001-00 D	Diplomprojekt			500s hrs by appt.	Professors

## DAS in Information Technology and Electrical Engineering - Key for Type

W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory
Z	Courses outside the curriculum	W+	Eligible for credits and recommended

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# DAS in Military Sciences

The DAS in Military Sciences programme is executed every second year,

Next start in Autumn Semester 2021.

## ► Courses Offered

Number	Title	Type	ECTS	Hours				Lecturers	
<b>853-0063-02L</b>	<b>Military History I (without Exercises)</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					<b>A. Wettstein</b> , T. Cubito, M. Olsansky
853-0063-00 V	Militärgeschichte I			2 hrs	Mon	16-18	HG D3.2		
<b>853-0047-00L</b>	<b>World Politics Since 1945: The History of International Relations</b> <i>Only for Public Policy BA and DAS Military Sciences</i>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>					<b>L. Horovitz</b> <b>A. Dossi</b>
853-0047-00 V	Weltpolitik seit 1945: Geschichte der internationalen Beziehungen			2 hrs	Wed	10-12	CAB G11		
853-0047-00 U	Übungen zu Weltpolitik seit 1945: Geschichte der internationalen Beziehungen			1 hrs	Wed	09-10	CAB G11		
<b>853-0082-00L</b>	<b>Strategic Studies I</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					<b>M. Mantovani</b>
853-0082-00 V	Strategische Studien I			2 hrs	Tue	14-16	IFW A36		
<b>853-0037-01L</b>	<b>Military Psychology and Pedagogy I (without Exercises)</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					<b>H. Annen</b>
853-0037-00 V	Militärpsychologie und -pädagogik I			2 hrs	Tue	10-12	HG E33.3		
<b>853-0064-00L</b>	<b>Military Sociology I</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					<b>T. Szvircsev Tresch</b> , S. De Rosa, T. Ferst
853-0064-00 V	Militärsoziologie I			2 hrs	Mon	14-16	IFW A32.1		
<b>853-0033-00L</b>	<b>Leadership I</b> <i>For BA Public Policy and DAS Military Sciences only.</i>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					<b>F. Kernic</b> , F. Demont, M. Hohenweger
853-0033-00 V	Leadership I ■			2 hrs	Tue	16-18	LEE E101		
<b>853-0061-00L</b>	<b>Introduction to Cybersecurity Politics</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					<b>M. Dunn Cavelty</b> , F. J. Egloff
853-0061-00 G	Einführung in die Cybersicherheitspolitik			2 hrs	Wed	14-16	HG F3		
<b>853-8002-00L</b>	<b>The Role of Technology in National and International Security Policy</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					<b>M. Haas</b> , A. Dossi, M. Leese, O. Thranert
853-8002-00 G	Die Rolle von Technologie in nationaler und internationaler Sicherheitspolitik			2 hrs	Tue	08-10	IFW A36		
<b>853-0101-02L</b>	<b>Defense Economics I</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					<b>M. M. Keupp</b>
853-0101-02 V	Militärökonomie I			2 hrs	Mon	12-14	HG F26.5		

## DAS in Military Sciences - Key for Type

Dr	Suitable for doctorate	W	Eligible for credits
E-	Recommended, not eligible for credits	W+	Eligible for credits and recommended
O	Compulsory	Z	Courses outside the curriculum

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS	European Credit Transfer and Accumulation System
■	Special students and auditors need special permission from the lecturers.

# DAS in Spatial Planning

## ► Lectures

Number	Title	Type	ECTS	Hours	Lecturers
115-0500-00L	<b>Preliminary Course: Introduction to Swiss Spatial Planning</b> <i>Only for MAS, DAS and CAS in Spatial Planning</i>	O	3 credits	3G	
115-0500-00 G	Vorkurs: Einführung in die Raumplanung <i>Datum: 23.08. - 27.08.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			40s hrs	D. Jerjen, A. Schneider
115-0502-00L	<b>Lecture Week 02: Urban Planning and Urban Design I</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	W	2 credits	1G	
115-0502-00 G	Präsenzwoche 02: Stadtplanung und Städtebau I <i>Datum: 08. – 12.11.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	S. Kretz, C. Salewski
115-0503-00L	<b>Lecture Week 03: Landscape Architecture</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	W	2 credits	1G	
115-0503-00 G	Präsenzwoche 03: Landschaftsarchitektur <i>Datum: 06. – 10.12.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	G. Vogt
115-0504-00L	<b>Lecture Week 04: Landscape and Environmental Planning</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	W	2 credits	1G	
115-0504-00 G	Präsenzwoche 04: Landschafts- und Umweltplanung <i>Datum: 10. – 14.01.2022</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	A. Grêt-Regamey, U. Wissen Hayek
115-0501-00L	<b>Lecture Week 01: Spatial Planning: Tasks and Methods</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	W	2 credits	1G	
115-0501-00 G	Präsenzwoche 01: Raumplanung: Aufgaben und Methoden <i>Datum: 11. – 15.10.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	M. Nollert

### DAS in Spatial Planning - Key for Type

E-	Recommended, not eligible for credits	W+	Eligible for credits and recommended
O	Compulsory	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# DAS in Transport Engineering

Starts every second Autumn Semester.

Next start: HS21

Duration: Two years.

## ► Compulsory Modules

Number	Title	Type	ECTS	Hours	Lecturers
<b>149-0001-00L</b>	<b>Transport Planning - Theory and Models</b> <b>O</b> <i>Only for CAS/DAS in Transport Engineering and MAS in Future Transport Systems</i>		<b>4 credits</b>	<b>3G</b>	
149-0001-00 G	Verkehr und Verkehrsplanung - Theoretische Ansätze und Modelle <i>Blockkurs</i> <i>Vorlesung: 09:00 - 13:00 Uhr</i> <i>Übungen: 14:00 - 17:00 Uhr</i>			35s hrs 18.10.- 09-17 20.10. 16.12.- 09-17 17.12.	<b>K. W. Axhausen</b> , M. Friedrich
				HIT F11.1 HIT F11.1	
<b>149-0002-00L</b>	<b>Traffic Engineering</b> <b>O</b> <i>Only for CAS/DAS in Transport Engineering and MAS in Future Transport Systems</i>		<b>4 credits</b>	<b>3G</b>	
149-0002-00 G	Verkehrssteuerung <i>Blockkurs</i> <i>Vorlesung: 09:00 - 13:00 Uhr</i> <i>Übungen: 14:00 - 17:00 Uhr</i>			35s hrs 21.10.- 09-17 22.10. 13.12.- 09-17 15.12.	<b>M. Fellendorf</b>
				HIT F11.1 HIT F11.1	

## ► Elective Modules

Elective modules start from Autumn Semester HS 2022 and Spring Semester FS 2023 on.

## ► Diploma Thesis

Start of diploma thesis from Autumn Semester 2022 on.

### DAS in Transport Engineering - Key for Type

E-	Recommended, not eligible for credits	W+	Eligible for credits and recommended
O	Compulsory	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# DAS Preparation for the Swiss Federal Examination in Pharmacy

## ► First Series of Courses (Group A)

Number	Title	Type	ECTS	Hours				Lecturers
535-0521-00L	<b>Pharmacology and Toxicology I</b>	O	2 credits	2V				U. Quitterer, J. Abd Alla
535-0521-00 V	Pharmakologie und Toxikologie I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	08-10	HCI J7	
535-0810-00L	<b>Gene Technology</b>	O	2 credits	2G				K. Eyer, J. Scheuermann
535-0810-00 G	Gene Technology			2 hrs	Wed	10-12	HCI J6	
535-0830-00L	<b>Pharmaceutical Immunology</b>	O	2 credits	2G				C. Halin Winter, V. Collado Diaz
535-0830-00 G	Pharmaceutical Immunology			2 hrs	Wed	08-10	HCI J6	
535-0421-00L	<b>Galenical Pharmacy I</b>	O	2 credits	2G				J.-C. Leroux, E. Giger
535-0421-00 G	Galenische Pharmazie I <i>Unterrichtssprache: Deutsch und Englisch Language: German and English</i>			2 hrs	Fri	10-12	HCI J7	
535-0525-00L	<b>Pharmaceutical Cases</b>	O	1 credit	1G				D. Stämpfli, S. Erni, E. Kut Bacs, P. Obrist
535-0525-00 G	Pharmazeutische Fallbeispiele ■			1 hrs	Tue/2	10-12	HCI J4	

## ► Second Series of Courses (Group A)

### ►► Compulsary Courses I

Number	Title	Type	ECTS	Hours				Lecturers
535-5512-00L	<b>Triage, Diagnostics, Therapy Support</b>	O	9 credits	12G				E. Kut Bacs, S. Erni, P. Obrist, D. Petralli-Nietlispach, K. Prader-Schneiter, I. S. Vogel Kahmann, P. Wiedemeier
535-5512-00 G	Triage, Diagnostik, Therapiebegleitung ■			168s hrs	Thu/1 Fri/1 09.11.- 10.12.	08-12 14-18 08-17	HG D3.2 ML E12 ML H37.1	

### ►► Compulsary Courses II

Number	Title	Type	ECTS	Hours				Lecturers
535-0030-00L	<b>Therapeutic Proteins</b>	W	3 credits	3G				C. Halin Winter, D. Neri
535-0030-00 G	Therapeutic Proteins			3 hrs	Mon	10-13	HIL E9	
535-0041-00L	<b>Pharmacology and Toxicology III</b>	W	2 credits	2G				M. Detmar, U. Quitterer
535-0041-00 G	Pharmacology and Toxicology III <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Mon	14-16	HCI G3	
535-0050-00L	<b>Pharmacoepidemiology and Drug Safety</b>	W	3 credits	2G				A. Burden, S. Russmann
535-0050-00 G	Pharmacoepidemiology and Drug Safety			2 hrs	Fri/1	08-12	ML F36	
535-0137-00L	<b>Clinical Chemistry II</b>	W	1 credit	1V				M. Hersberger
535-0137-00 V	Clinical Chemistry II			1 hrs	Tue/1	10-12	HCI J4	

## ► Second Series of Courses (Group B)

Number	Title	Type	ECTS	Hours				Lecturers
535-5512-00L	<b>Triage, Diagnostics, Therapy Support</b>	O	9 credits	12G				E. Kut Bacs, S. Erni, P. Obrist, D. Petralli-Nietlispach, K. Prader-Schneiter, I. S. Vogel Kahmann, P. Wiedemeier
535-5512-00 G	Triage, Diagnostik, Therapiebegleitung ■			168s hrs	Thu/1 Fri/1 09.11.- 10.12.	08-12 14-18 08-17	HG D3.2 ML E12 ML H37.1	
535-0137-00L	<b>Clinical Chemistry II</b>	O	1 credit	1V				M. Hersberger
535-0137-00 V	Clinical Chemistry II			1 hrs	Tue/1	10-12	HCI J4	

## ► Third Series of Courses (Group A and B)

### ►► Practical Pharmacy I and Compensatory Courses

Number	Title	Type	ECTS	Hours				Lecturers
535-5521-00L	<b>Therapeutic Skills I</b>	O	3 credits	3G				A. Küng Krähenmann, S. Erni, E. Kut Bacs, D. Petralli-Nietlispach, D. Stämpfli, I. S. Vogel Kahmann, P. Wiedemeier
535-5521-00 G	Therapeutic Skills I ■			48s hrs	20.09. 20.09.- 08.10. 23.09. 27.09.	10-18 08-18 08-12 08-16	ML H37.1 ML H37.1 ML H37.1 ML H37.1	
535-5522-00L	<b>Therapeutic Skills II</b>	O	3 credits	3G				A. Küng Krähenmann, S. Erni, E. Kut Bacs, D. Petralli-Nietlispach, D. Stämpfli, I. S. Vogel Kahmann, P. Wiedemeier
535-5522-00 G	Therapeutic Skills II ■			48s hrs	20.09. 20.09.- 08.10. 23.09. 27.09.	10-18 08-18 08-12 08-16	ML H37.1 ML H37.1 ML H37.1 ML H37.1	



## ►► Practical Pharmacy II

Number	Title	Type	ECTS	Hours	Lecturers
<b>535-5524-00L</b>	<b>Clinical Trainings</b>	<b>O</b>	<b>2 credits</b>	<b>3G</b>	
535-5524-00 G	Clinical Trainings ■			40s hrs	<b>A. Gutzeit</b> , D. Stämpfli, P. Wiedemeier
<b>535-5502-00L</b>	<b>Pharmaceutical Manufacturing in Small Quantities (Compounding)</b>	<b>O</b>	<b>3 credits</b>	<b>5G</b>	
535-5502-00 G	Arzneimittelherstellung in kleinen Mengen ■ <i>Gemäss separatem Programm</i>			64s hrs	<b>P. G. Tiefenböck</b> , A. Romagna
<b>535-5503-00L</b>	<b>Institutional Pharmacy</b>	<b>O</b>	<b>2 credits</b>	<b>3G</b>	
535-5503-00 G	Institutionelle Pharmazie ■			40s hrs by appt.	<b>P. Wiedemeier</b> , J. Beney, M. Lutters, I. S. Vogel Kahmann

### DAS Preparation for the Swiss Federal Examination in Pharmacy - Key for Type

Dr	Suitable for doctorate	W	Eligible for credits
E-	Recommended, not eligible for credits	W+	Eligible for credits and recommended
O	Compulsory	Z	Courses outside the curriculum

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Data Science Master

## ► Core Courses

### ►► Data Analysis

### ►►► Information and Learning

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3</i> <i>Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu	15-16	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed	14-16	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs	Fri	16-18		<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
227-0423-00 V	Neural Network Theory			2 hrs	Tue	10-12	HG F5	<b>H. Bölcskei</b>
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on: <a href="https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html">https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html</a>.</i> <i>The reserved room is meant for those students who want to follow the course from the campus.</i>			1 hrs	Tue	12-13	HG F5	<b>H. Bölcskei</b>

### ►►► Statistics

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-3621-00L</b>	<b>Fundamentals of Mathematical Statistics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				
401-3621-00 V	Fundamentals of Mathematical Statistics			4 hrs	Tue	08-10	HG E5 HG E7	<b>S. van de Geer</b>
401-3621-00 U	Fundamentals of Mathematical Statistics			1 hrs	Tue	12-13	HG D7.1 HG E7	<b>S. van de Geer</b>

### ►► Data Management

Number	Title	Type	ECTS	Hours				Lecturers
<b>263-3010-00L</b>	<b>Big Data</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
263-3010-00 V	Big Data <i>Online lecture: This lecture will primarily take place online.</i> <i>Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue	14-16	CAB G61 ML H44	<b>G. Fourny</b>
263-3010-00 U	Big Data <i>Groups are selected in myStudies.</i>			2 hrs	Wed	14-16	CAB G52 HG E33.1 HG G26.1 ON LINE CAB G52 ON LINE	<b>G. Fourny</b>
263-3010-00 A	Big Data <i>Individual work to get hands-on experience with the technologies covered, no fixed presence required.</i>			4 hrs	Fri	14-16		<b>G. Fourny</b>
<b>263-3845-00L</b>	<b>Data Management Systems</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-3845-00 V	Data Management Systems			3 hrs	Wed	10-12	CAB G61 HG G3	<b>G. Alonso</b>
263-3845-00 U	Data Management Systems			1 hrs	Fri	08-09	HG D5.1 HG E21 HG G26.1	<b>G. Alonso</b>
263-3845-00 A	Data Management Systems			3 hrs	Fri	09-10		<b>G. Alonso</b>
<b>263-4500-00L</b>	<b>Advanced Algorithms</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>				
263-4500-00 V	Advanced Algorithms <i>Online lecture: This lecture will primarily take place online.</i> <i>Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Wed	09-12	HG D5.2	<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 U	Advanced Algorithms			2 hrs	Fri	10-12	CAB G59	<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 A	Advanced Algorithms			3 hrs				<b>M. Ghaffari, G. Zuzic</b>

### ►► Core Electives

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0563-01L</b>	<b>Dynamic Programming and Optimal Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester.</i> <i>Online lecture: This lecture will primarily take place online.</i> <i>Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG F1	<b>R. D'Andrea</b>
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>			1 hrs	Wed	16-17	CAB G51 HG F1 ML E12	<b>R. D'Andrea</b>
<b>227-0101-00L</b>	<b>Discrete-Time and Statistical Signal</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				

Processing								
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18	HG F3	H.-A. Loeliger
227-0417-00L	Information Theory I	W	6 credits	4G				
227-0417-00 G	Information Theory I			4 hrs	Wed	14-18	ETF C1	A. Lapidoth
227-0689-00L	System Identification	W	4 credits	2V+1U				
227-0689-00 V	System Identification			2 hrs	Wed	10-12	HG D7.1	R. Smith
227-0689-00 U	System Identification			1 hrs	Wed	12-13	ETZ D61.1 HG D7.1	R. Smith
252-0417-00L	Randomized Algorithms and Probabilistic Methods	W	10 credits	3V+2U+4A				
252-0417-00 V	Randomized Algorithms and Probabilistic Methods			3 hrs	Wed Thu	08-09 16-18	ML D28 ML D28	A. Steger
252-0417-00 U	Randomized Algorithms and Probabilistic Methods			2 hrs	Tue	14-16 16-18	HG D1.2 HG D1.2	A. Steger
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>			4 hrs				A. Steger
252-1407-00L	Algorithmic Game Theory	W	7 credits	3V+2U+1A				
252-1407-00 V	Algorithmic Game Theory			3 hrs	Fri	10-13	CHN C14	P. Penna
252-1407-00 U	Algorithmic Game Theory			2 hrs	Tue	10-12	CAB G57 CAB G59 LFW B3	P. Penna
252-1407-00 A	Algorithmic Game Theory <i>Project Work, no fixed presence required.</i>			1 hrs		16-18		P. Penna
252-1414-00L	System Security	W	7 credits	2V+2U+2A				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	S. Capkun, A. Perrig
252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>			2 hrs	Thu	14-16 16-18	HG D3.2 CAB G11	S. Capkun, A. Perrig
252-1414-00 A	System Security			2 hrs				S. Capkun, A. Perrig
252-3005-00L	Natural Language Processing <i>Number of participants limited to 400.</i>	W	5 credits	2V+2U+1A				
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>			2 hrs	Mon	12-14	HG F7	R. Cotterell
252-3005-00 U	Natural Language Processing			2 hrs	Wed	12-14	HG F7	R. Cotterell
252-3005-00 A	Natural Language Processing			1 hrs				R. Cotterell
261-5130-00L	Research in Data Science <i>Only for Data Science MSc.</i>	W	6 credits	13A				
261-5130-00 A	Research in Data Science			180s hrs				Professors
263-0006-00L	Algorithms Lab <i>Only for master students!</i>	W	8 credits	4P+3A				
263-0006-00 P	Algorithms Lab			4 hrs	Mon	14-16	CAB H57 HG E26.1 HG E26.3 ML H34.3 CAB G11 ML H34.3	A. Steger, E. Welzl
263-0006-00 A	Algorithms Lab <i>Project Work, no fixed presence required.</i>			3 hrs	Tue Wed Thu	16-18 16-18 16-18		A. Steger, E. Welzl
263-0009-00L	Information Security Lab <i>Only for master students! Number of participants limited to 250.</i>	W	8 credits	2V+1U+3P+1A				
263-0009-00 V	Information Security Lab			2 hrs	Mon	16-18	ML D28	K. Paterson, S. Capkun, D. Hofheinz, A. Perrig, S. Shinde
263-0009-00 U	Information Security Lab			1 hrs	Tue Wed	16-17 08-09	CHN F46 CAB G11	K. Paterson, S. Capkun, D. Hofheinz, A. Perrig, S. Shinde
263-0009-00 P	Information Security Lab			3 hrs	Thu	16-19	CAB H56 CAB H57 CHN E42 CHN G42 ETZ E6	K. Paterson, S. Capkun, D. Hofheinz, A. Perrig, S. Shinde
263-0009-00 A	Information Security Lab			1 hrs				K. Paterson, S. Capkun, D. Hofheinz, A. Perrig, S. Shinde
263-2400-00L	Reliable and Trustworthy Artificial Intelligence	W	6 credits	2V+2U+1A				
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG G3	M. Vechev
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon Wed	12-14 12-14	CAB G56 CAB G51	M. Vechev
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence			1 hrs				M. Vechev

<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance W Computing</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>					
	<i>Number of participants limited to 125.</i>								
263-2800-00 V	Design of Parallel and High-Performance Computing			3 hrs	Mon	13-16	CAB G11	<b>T. Hoefler, M. Püschel</b>	
263-2800-00 U	Design of Parallel and High-Performance Computing			2 hrs	Thu	14-16	CHN C14	<b>T. Hoefler, M. Püschel</b>	
263-2800-00 A	Design of Parallel and High-Performance Computing			3 hrs				<b>T. Hoefler, M. Püschel</b>	
	<i>Project Work, no fixed presence required.</i>								
<b>263-3210-00L</b>	<b>Deep Learning</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
	<i>Number of participants limited to 320.</i>								
263-3210-00 V	Deep Learning			3 hrs	Wed	13-14	ML D28	<b>F. Perez Cruz, A. Lucchi</b>	
					Thu	14-16	ML D28		
263-3210-00 U	Deep Learning			2 hrs	Mon	16-18	HG G5	<b>F. Perez Cruz, A. Lucchi</b>	
					Wed	16-18	ML D28		
263-3210-00 A	Deep Learning			2 hrs				<b>F. Perez Cruz, A. Lucchi</b>	
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
263-5210-00 V	Probabilistic Artificial Intelligence			3 hrs	Fri	10-12	ETA F5	<b>A. Krause</b>	
	<i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>								
						13-14	ETA F5		
							ETF E1		
263-5210-00 U	Probabilistic Artificial Intelligence			2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>	
	<i>Q&amp;A session: Monday, 17-18, via zoom</i>								
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs				<b>A. Krause</b>	
<b>263-5255-00L</b>	<b>Foundations of Reinforcement Learning</b>	<b>W</b>	<b>5 credits</b>	<b>2V+2A</b>					
	<i>Number of participants limited to 190.</i>								
263-5255-00 V	Foundations of Reinforcement Learning			2 hrs	Fri	14-16	CAB G11	<b>N. He</b>	
263-5255-00 A	Foundations of Reinforcement Learning			2 hrs				<b>N. He</b>	
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>					
263-5902-00 V	Computer Vision			3 hrs	Wed	14-16	NO C60	<b>M. Pollefeys, S. Tang, F. Yu</b>	
					Thu	12-13	HG G5		
263-5902-00 U	Computer Vision			1 hrs	Thu	13-14	CAB G51	<b>M. Pollefeys, S. Tang, F. Yu</b>	
					Fri	13-14	CAB G51		
263-5902-00 A	Computer Vision			3 hrs				<b>M. Pollefeys, S. Tang, F. Yu</b>	
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon	14-16	HG G5	<b>L. Meier</b>	
401-0625-01 U	Applied Analysis of Variance and Experimental Design			1 hrs	Mon/2w	16-18	HG E1.1	<b>L. Meier</b>	
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
401-3055-64 V	Algebraic Methods in Combinatorics			2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>	
401-3055-64 U	Algebraic Methods in Combinatorics			1 hrs	Mon	12-13	ML F34	<b>B. Sudakov</b>	
						13-14	ML F34		
<b>401-3601-00L</b>	<b>Probability Theory</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>					
	<i>At most one of the three course units (Bachelor Core Courses)</i>								
	<i>401-3461-00L Functional Analysis I</i>								
	<i>401-3531-00L Differential Geometry I</i>								
	<i>401-3601-00L Probability Theory</i>								
	<i>can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office</i>								
	<i>(www.math.ethz.ch/studiensekretariat) after having received the credits.</i>								
401-3601-00 V	Probability Theory			4 hrs	Tue	10-12	HG D1.2	<b>W. Werner</b>	
					Thu	10-12	HG E3		
401-3601-00 U	Probability Theory			1 hrs	Tue	14-15	HG F26.5	<b>W. Werner</b>	
	<i>Groups are selected in myStudies.</i>								
	<i>Tue 14-15 or Tue 15-16 starting in the second week of the semester.</i>								
						15-16	HG F26.5		
							ML H41.1		
							ML H41.1		
<b>401-3612-00L</b>	<b>Stochastic Simulation</b>	<b>W</b>	<b>5 credits</b>	<b>3G</b>					
401-3612-00 G	Stochastic Simulation			3 hrs					
	<i>Does not take place this semester.</i>								
<b>401-3622-00L</b>	<b>Statistical Modelling</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-3622-00 G	Statistical Modelling			4 hrs	Mon	10-12	ML D28	<b>C. Heinze-Deml</b>	
					Thu	14-16	HG E1.1		
<b>401-3627-00L</b>	<b>High-Dimensional Statistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3627-00 V	High-Dimensional Statistics			2 hrs	Thu	08-10	CAB G61	<b>P. L. Bühlmann</b>	
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>					
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization)			4 hrs	Wed	12-14	HG G5	<b>R. Zenklusen</b>	
	<i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>								
					Thu	10-12	HG G5		
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization)			2 hrs	Thu	14-16	HG F26.5	<b>R. Zenklusen</b>	
	<i>Groups are selected in myStudies.</i>								
	<i>Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>								
					Fri	10-12	CAB G51		
						12-14	HG D3.2		
						14-16	HG F26.5		

<b>401-4623-00L</b>	<b>Time Series Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
401-4623-00 G	Time Series Analysis <i>Does not take place this semester.</i>			3 hrs				<b>F. Balabdaoui</b>	
<b>401-4944-20L</b>	<b>Mathematics of Data Science</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-4944-20 G	Mathematics of Data Science			4 hrs	Thu Fri	12-14 10-12	HG G3 HG G5	<b>A. Bandeira</b>	
<b>402-0461-00L</b>	<b>Quantum Information Theory</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U</b>					
402-0461-00 V	Quantum Information Theory			3 hrs	Wed Thu	10-12 14-15	HPV G4 HPV G4	<b>P. Kammerlander</b>	
402-0461-00 U	Quantum Information Theory			1 hrs	Thu	15-16	HCI J4 HPV G4	<b>P. Kammerlander</b>	
<b>263-5005-00L</b>	<b>Artificial Intelligence in Education</b> <i>Number of participants limited to 75.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>					
263-5005-00 V	Artificial Intelligence in Education <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	16-18	RZ F21	<b>M. Sachan, T. Sinha</b>	
263-5005-00 U	Artificial Intelligence in Education <i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>			1 hrs	Thu	18-19	RZ F21	<b>M. Sachan, T. Sinha</b>	
263-5005-00 A	Artificial Intelligence in Education			1 hrs				<b>M. Sachan, T. Sinha</b>	
<b>227-2210-00L</b>	<b>Computer Architecture</b>	<b>W</b>	<b>8 credits</b>	<b>6G+1A</b>					
227-2210-00 G	Computer Architecture <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			6 hrs	Thu Fri	13-16 13-16	HG D16.2 HG D16.2	<b>O. Mutlu</b>	
227-2210-00 A	Computer Architecture			1 hrs				<b>O. Mutlu</b>	
<b>► Interdisciplinary Electives</b>									
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>	
<b>227-1033-00L</b>	<b>Neuromorphic Engineering I</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>					
	<i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module INI404 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>								
227-1033-00 V	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich** The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Mon	14-16	ON LINE	<b>T. Delbrück, G. Indiveri, S.-C. Liu</b>	
227-1033-00 U	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich**</i>			3 hrs	by appt.			<b>T. Delbrück, G. Indiveri, S.-C. Liu</b>	
	<i>Dates by arrangement.</i>								
<b>227-0421-00L</b>	<b>Deep Learning in Artificial and Biological Neuronal Networks</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0421-00 G	Deep Learning in Artificial and Biological Neuronal Networks			3 hrs	Wed	09-12	ML F34	<b>B. Grewe</b>	
<b>227-0945-00L</b>	<b>Cell and Molecular Biology for Engineers I</b> <i>This course is part I of a two-semester course.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
227-0945-00 G	Cell and Molecular Biology for Engineers I			2 hrs	Thu	10-12	LFW C5	<b>C. Frei</b>	
<b>261-5100-00L</b>	<b>Computational Biomedicine</b> <i>Number of participants limited to 120.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>					
261-5100-00 V	Computational Biomedicine <i>Online lecture: This lecture will take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>			2 hrs	Tue	10-12	ML F39	<b>V. Boeva, G. Rätsch</b>	
261-5100-00 U	Computational Biomedicine <i>Online lecture: This lecture will take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>			1 hrs	Tue	13-14	ML F39	<b>V. Boeva, G. Rätsch</b>	
261-5100-00 A	Computational Biomedicine			1 hrs				<b>V. Boeva, G. Rätsch</b>	
<b>261-5112-00L</b>	<b>Algorithms and Data Structures for</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					

<b>Population Scale Genomics</b> <i>Number of participants limited to 30.</i>								
261-5112-00 G	Algorithms and Data Structures for Population Scale Genomics	2 hrs	to be announced					
<i>Does not take place this semester.</i> <i>Course will be offered again in FS 2022.</i>								
<b>261-5111-00L</b>	<b>Asset Management: Advanced Investments (University of Zurich)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
<i>No enrolment to this course at ETH Zurich.</i> <i>Book the corresponding module directly at UZH as an incoming student.</i> <i>UZH Module Code: MFOEC207</i>								
<i>Mind the enrolment deadlines at UZH:</i> <i><a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>								
261-5111-00 V	Asset Management: Advanced Investments (University of Zurich)	2 hrs	University lecturers					
<b>**Course at University of Zurich**</b>								
<b>636-0017-00L</b>	<b>Computational Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>				
636-0017-00 G	Computational Biology	3 hrs	Mon	16-18	BSA E46	<b>T. Vaughan</b>		
					HG D16.2			
				Thu	18-19	HG D16.2		
					12-13	BSA E46		
<i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations.</i> <i>Tutorials in Zürich: Monday 18-19h (HG D 16.2)</i> <i>Tutorials in Basel: Thursday 12-13h (BSA E 46)</i> <i>Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom.</i> <i>ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>								
636-0017-00 A	Computational Biology	2 hrs	<b>T. Vaughan</b>					
<i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>								
<b>701-0023-00L</b>	<b>Atmosphere</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
701-0023-00 V	Atmosphäre	2 hrs	Tue	10-12	HG E3	<b>E. M. Fischer, T. Peter</b>		
<b>701-0473-00L</b>	<b>Weather Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0473-00 G	Wettersysteme	2 hrs	Wed	14-16	CHN E46	<b>M. A. Sprenger, F. Scholder-Aemisegger</b>		
<b>701-1251-00L</b>	<b>Land-Climate Dynamics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
<i>Number of participants limited to 36.</i> <i>Priority is given to the target groups:</i> <i>- Master Environmental Science,</i> <i>- Master Atmospheric and Climate Science and</i> <i>- PhD D-USYS</i> <i>until September 20th,2021.</i> <i>Waiting list will be deleted September 27th, 2021.</i>								
701-1251-00 G	Land-Climate Dynamics	2 hrs	Tue	05.10.	14-16	CHN E42	<b>S. I. Seneviratne,</b>	
						HG E19	<b>R. Padrón Flasher</b>	
<b>101-0417-00L</b>	<b>Transport Planning Methods</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
101-0417-00 G	Transport Planning Methods	4 hrs	Mon	10-12	HIL F36.1	<b>K. W. Axhausen</b>		
			Wed	10-12	HIL F36.1			
			22.09.	10-12	HCP E47.1			
			27.09.	10-12	HIL F10.3			
			29.09.	10-12	HCP E47.1			
			04.10.	10-12	HIL F10.3			
			06.10.	10-12	HCP E47.1			
<b>101-0491-00L</b>	<b>Agent Based Modeling in Transportation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
101-0491-00 G	Agent Based Modeling in Transportation	4 hrs	Mon	10-12	HPK D24.2	<b>M. Balac</b>		
			Tue	14-16	HPK D24.2			
<b>103-0227-00L</b>	<b>Cartography III</b>	<b>W</b>	<b>5 credits</b>	<b>4G</b>				
103-0227-00 G	Cartography III	4 hrs	Mon	13-17	HIL G22	<b>L. Hurni</b>		
<b>103-0237-00L</b>	<b>GIS III</b>	<b>W</b>	<b>5 credits</b>	<b>3G</b>				
103-0237-00 G	GIS III	3 hrs	Thu	14-17	HIL D53	<b>W. Kuhn</b>		
<b>103-0717-00L</b>	<b>Geoinformation Technologies and Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
103-0717-00 G	Geoinformationstechnologien und -analysen	5 hrs	Tue	10-13	HIL E15.2	<b>W. Kuhn</b>		
			Wed	10-12	HIL E7			
<b>103-0778-00L</b>	<b>GIS and Geoinformatics Lab</b>	<b>W</b>	<b>4 credits</b>	<b>3P</b>				
103-0778-00 P	GIS and Geoinformatics Lab	3 hrs	Tue	21.12.	14-17	HIL D54.1	<b>P. Kiefer</b>	
					10-18	HIT E51		
<b>227-0575-00L</b>	<b>Advanced Topics in Communication Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0575-00 V	Advanced Topics in Communication Networks	2 hrs	Tue	14-16	ML E12	<b>L. Vanbever</b>		
227-0575-00 U	Advanced Topics in Communication Networks	2 hrs	Tue	16-18	ML E12	<b>L. Vanbever</b>		
<b>401-3922-00L</b>	<b>Life Insurance Mathematics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
401-3922-00 V	Life Insurance Mathematics	2 hrs	Fri	16-18	HG E1.1	<b>M. Koller</b>		
<b>401-3925-00L</b>	<b>Non-Life Insurance: Mathematics and</b>	<b>W</b>	<b>8 credits</b>	<b>4V+1U</b>				

Statistics								
401-3925-00 V	Non-Life Insurance: Mathematics and Statistics		4 hrs	Mon	16-18	HG D7.1	M. V. Wüthrich	
401-3925-00 U	Non-Life Insurance: Mathematics and Statistics		1 hrs	Tue	13-15	HG D7.1	M. V. Wüthrich	
401-3928-00L	Reinsurance Analytics	W	4 credits	2V				
401-3928-00 V	Reinsurance Analytics		2 hrs	Tue	16-18	HG E1.1	P. Antal, P. Arbenz	
401-4889-00L	Mathematical Finance	W	11 credits	4V+2U				
401-4889-00 V	Mathematical Finance		4 hrs	Tue	08-10	HG E1.1	D. Possamai	
				Thu	08-10	ML F36		
401-4889-00 U	Mathematical Finance		2 hrs	Fri	10-12	ML F38	D. Possamai	
401-8905-00L	Financial Engineering (University of Zurich) No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: MFOEC200  Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a>	W	6 credits	4G				
401-8905-00 G	Financial Engineering (University of Zurich) **Course at University of Zurich**		4 hrs				University lecturers	
851-0252-13L	Network Modeling Particularly suitable for students of D-INFK and in the MSc Data Science  Students are required to have basic knowledge in inferential statistics, such as regression models.	W	3 credits	2V				
851-0252-13 V	Network Modeling		2 hrs	Mon	16-18	IFW A32.1	C. Stadtfeld, V. Amati	
851-0735-09L	Workshop & Lecture Series on the Law & Economics of Innovation	W	2 credits	2S				
851-0735-09 S	Workshop & Lecture Series on the Law & Economics of Innovation **together with University of Zurich**  Unregelmässige Veranstaltung. Findet alternierende an der UZH und an der ETH statt.		28s hrs	Tue Wed 22.09.	16-18 16-18 16-18	UNI ZH. IFW A32.1 ML E12	S. Bechtold, H. Gersbach	
851-0252-15L	Network Analysis Particularly suitable for students of D-INFK, D-MATH	W	3 credits	2V				
851-0252-15 V	Network Analysis		2 hrs	Wed	18-20	ML F36	U. Brandes	
851-0760-00L	Building a Robot Judge: Data Science for Decision-Making Particularly suitable for students of D-INFK, D-ITET, D-MTEC	W	3 credits	2V				
851-0760-00 V	Building a Robot Judge: Data Science for Decision-Making Online lecture: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.		2 hrs	Mon	14-16	ETZ E8	E. Ash	
851-0761-00L	Building a Robot Judge: Data Science for Decision-Making (Course Project) This is the optional course project for "Building a Robot Judge: Data Science for the Law."  Please register only if attending the lecture course or with consent of the instructor.  Some programming experience in Python is required, and some experience with text mining is highly recommended.	W	2 credits	2V				
851-0761-00 V	Building a Robot Judge: Data Science for Decision-Making (Course Project) Mondays, 12 - 2 pm. Same dates and room as for the lecture course 851-0760-00 V Building a Robot Judge: Data Science for Decision-Making.		28s hrs				E. Ash	
401-3913-01L	Mathematical Foundations for Finance	W	4 credits	3V+2U				
401-3913-01 V	Mathematical Foundations for Finance **together with University of Zurich**		3 hrs	Tue Thu	08-10 13-14	HG G5 HG G5	B. Acciaio	
401-3913-01 U	Mathematical Foundations for Finance Groups are selected in myStudies. **together with University of Zurich** Fri 8-10 or Fri 10-12  Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from Zentrum campus.		2 hrs	Fri	08-10 10-12	HG D7.1 HG D3.2	B. Acciaio	
263-4640-00L	Network Security	W	8 credits	2V+2U+3A				

263-4640-00 V	Network Security	2 hrs	Tue	10-12	HG E1.2	<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson
263-4640-00 U	Network Security	2 hrs	Thu	16-18	CAB G61	<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>	3 hrs				<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson

#### ► Data Science Lab

Number	Title	Type	ECTS	Hours		Lecturers
<b>263-3300-00L</b>	<b>Data Science Lab</b> <i>Only for Data Science MSc.</i>	<b>O</b>	<b>14 credits</b>	<b>9P</b>		
263-3300-00 P	Data Science Lab			9 hrs	Thu 14-16 CAB G59	<b>C. Zhang</b> , V. Boeva, R. Cotterell, J. Vogt, F. Yang

#### ► Seminar

Number	Title	Type	ECTS	Hours		Lecturers
<b>252-5051-00L</b>	<b>Advanced Topics in Machine Learning</b> <i>Number of participants limited to 40.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
	<i>The deadline for deregistering expires at the end of the fourth week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>					
252-5051-00 S	Advanced Topics in Machine Learning ■			2 hrs	Tue 16-18 Thu 16-18 CAB G56 CAB G57	<b>J. M. Buhmann</b> , <b>R. Cotterell</b> , <b>J. Vogt</b> , <b>F. Yang</b>
<b>263-3504-00L</b>	<b>Hardware Acceleration for Data Processing</b> <i>Number of participants limited to 24.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
	<i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>					
263-3504-00 S	Hardware Acceleration for Data Processing <i>Online seminar: This seminar will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue 14-16 ML J34.1	<b>G. Alonso</b>
<b>263-5156-00L</b>	<b>Beyond iid Learning: Causality, Dynamics, and Interactions</b> <i>Number of participants limited to 60.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
	<i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>					
263-5156-00 S	Beyond iid Learning: Causality, Dynamics, and Interactions <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Wed 16-18 ON LINE	<b>M. Mühlebach</b> , A. Krause, B. Schölkopf
<b>401-5680-00L</b>	<b>Foundations of Data Science Seminar</b>	<b>E-</b>	<b>0 credits</b>			
401-5680-00 K	Foundations of Data Science Seminar <a href="https://www.math.ethz.ch/sfs/news-and-events/data-science-seminar.html">https://www.math.ethz.ch/sfs/news-and-events/data-science-seminar.html</a> <i>Time: 16:15-17:15</i>			3s hrs	23.09. 11.11. 02.12. 16-18 16-18 16-18 HG F3 HG G19.2 HG G19.1	<b>P. L. Bühlmann</b> , A. Bandeira, H. Bölcskei, F. Yang
<b>401-3620-20L</b>	<b>Student Seminar in Statistics: Inference in Some Non-Standard Regression Problems</b> <i>Number of participants limited to 24. Mainly for students from the Mathematics Bachelor and Master Programmes who, in addition to the introductory course unit 401-2604-00L Probability and Statistics, have heard at least one core or elective course in statistics. Also offered in the Master Programmes Statistics resp. Data Science.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>		
401-3620-00 S	Student Seminar in Statistics: Inference in Some Non-Standard Regression Problems <i>Remark: former title in FS 2020: Student Seminar in Statistics: Inference in Non-Classical Regression Models</i>			2 hrs	Mon 16-18 HG E21	<b>F. Balabdaoui</b> , P. L. Bühlmann, M. H. Maathuis, N. Meinshausen, S. van de Geer

#### ► GESS Science in Perspective

<i>see Science in Perspective: Language Courses ETH/UZH</i>						
<i>see Science in Perspective: Type A: Enhancement of Reflection Capability</i>						
<i>Recommended Science in Perspective (Type B) for D-INFK</i>						



## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
261-0800-00L	<b>Master's Thesis</b> <i>The minimal prerequisites for the Master's thesis registration are:</i>  <i>Completed Bachelor's program</i> <i>All additional requirements completed</i> <i>(additional requirements, if any, are listed in the admission decree)</i> <i>Minimum degree requirements fulfilled of the course categories Data Analysis and Data Management and overall 50 credits obtained in the course category Core Courses</i> <i>Data Science Lab (14 credits) completed</i>	O	30 credits	64D	
261-0800-00 D	Master's Thesis			900s hrs	Professors

### Data Science Master - Key for Type

Dr	Suitable for doctorate	W	Eligible for credits
E-	Recommended, not eligible for credits	W+	Eligible for credits and recommended
O	Compulsory	Z	Courses outside the curriculum

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# Doctoral Department of Architecture

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

Number	Title	Type	ECTS	Hours				Lecturers
Course Catalogue of ETH Zurich								
701-0015-00L	<b>Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement</b> <i>Number of participants limited to 20. Priority is given to PhD students D-USYS.</i>  <i>All participants will be on the waiting list at first. Enrollment is possible until 15 September 2021. The waiting list is active until 17 September. All students will be informed on 19 September, if they can participate in the lecture. The lecture takes place if a minimum of 12 students register for it..</i>	W	2 credits	2S				
701-0015-00 S	Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement <i>Irregular course</i>			2 hrs	Wed/2w	08-12	CHN K77	<b>M. Stauffacher</b> , C. E. Pohl, B. Vienni Baptista
064-0005-21L	<b>Advanced Topics in History and Theory of Architecture: Entry Points - Reading Seminar</b> <i>For Architecture doctoral program only.</i>	W	1 credit	1K				
064-0005-21 K	Advanced Topics in History and Theory of Architecture: Entry Points - Reading Seminar <i>No course on 28.10. (seminar week).</i>			1 hrs	Thu	18-19	HIL E67	<b>P. Ursprung</b> , T. Avermaete, M. Delbeke, L. Stalder
064-0013-21L	<b>Research Methods in the History and Theory of Architecture</b>	W	2 credits	2S				
064-0013-21 S	Research Methods in the History and Theory of Architecture I <i>No course on 28.10. (seminar week).</i>			2 hrs	Thu	14-16	HCI F2	<b>C. Rachele</b>
064-0017-21L	<b>Research Methods in Landscape and Urban Studies</b>	W	2 credits	2K				
064-0017-21 K	Research Methods in Landscape and Urban Studies ■ <i>Permission from lecturers required for all students No course on 28.10. (seminar week).</i>			2 hrs	Thu	14-16	ONA E16	<b>G. Vogt</b> , H. Klumpner, F. Persyn, C. Schmid, M. Topalovic
064-0015-21L	<b>PhD Colloquium Theory of Information Technology for Architects</b>	W	2 credits	2K				
064-0015-21 K	PhD Colloquium Theory of Information Technology for Architects <i>No course on 26.10. (seminar week).</i>			2 hrs	Tue	08-10	HIB E15	<b>L. Hovestadt</b>
064-0025-21L	<b>Introduction to Computational Research in Architecture, Engineering, Fabrication and Construction</b>	W	2 credits	3K				
064-0025-21 K	Introduction to Computational Research in Architecture, Engineering, Fabrication and Construction <i>No course 28.10. (seminar week). ONLINE course: This course will take place online. Reserved rooms will remain available for students to follow the seminar from there.</i>			3 hrs	Wed	13-16	HIL F10.3	<b>P. Block</b>
101-0139-00L	<b>Scientific Machine and Deep Learning for Design and Construction in Civil Engineering</b>	W+	3 credits	4G				
101-0139-00 G	Scientific Machine and Deep Learning for Design and Construction in Civil Engineering <i>14-16 theory 16-18 group work</i>			4 hrs	Mon	14-18	HPK D3	<b>M. A. Kraus</b> , D. Griego
351-0778-00L	<b>Discovering Management</b> <i>Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercises) 351-0778-01.</i>	W	3 credits	3G				
351-0778-00 G	Discovering Management <i>Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Fri	08-11	HG E1.1	<b>B. Clarysse</b> , S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe
851-0125-76L	<b>Critiques of Scientific Objectivity</b> <i>Number of participants limited to 30.</i>	W	3 credits	2S				
851-0125-76 S	Critiques of Scientific Objectivity			2 hrs	Fri	16-18	IFW A34	<b>R. Wagner</b>

**Doctoral Department of Architecture - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Doctoral Department of Civil, Environmental and Geomatic Engineering

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

### ►► International Graduate Program "Spatial Development as a Laboratory"

Further information: [www.forschungslabor-raum.info](http://www.forschungslabor-raum.info)

### ►► Additional Courses

Number	Title	Type	ECTS	Hours				Lecturers
701-0015-00L	<b>Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement</b> <i>Number of participants limited to 20. Priority is given to PhD students D-USYS.</i>  <i>All participants will be on the waiting list at first. Enrollment is possible until 15 September 2021. The waiting list is active until 17 September. All students will be informed on 19 September, if they can participate in the lecture. The lecture takes place if a minimum of 12 students register for it..</i>	W	2 credits	2S				
701-0015-00 S	Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement <i>Irregular course</i>			2 hrs	Wed/2w 08-12	CHN K77		<b>M. Stauffacher</b> , C. E. Pohl, B. Vienni Baptista
<i>Course Catalogue of ETH Zurich</i>								
101-0191-00L	<b>Seismic and Vibration Isolation</b>	W	2 credits	1G				
101-0191-00 G	Seismic and Vibration Isolation			1 hrs	Wed/1 10-12	HCP E47.2		<b>M. Vassiliou</b>
101-0121-00L	<b>Fatigue and Fracture in Materials and Structures</b>	W	4 credits	3G				
101-0121-00 G	Fatigue and Fracture in Materials and Structures <i>The lecture will primarily take place online. The reserved room will remain blocked on campus for students to follow the lecture from there. Remark: Includes a visit to Empa and laboratory tests by student at Empa laboratories.</i>			3 hrs	Tue 10-13	HCI J6		<b>E. Ghafoori</b> , A. Taras
101-0522-10L	<b>Doctoral Seminar Data Science and Machine Learning in Civil, Env. and Geospatial Engineering</b> <i>Number of participants limited to 21.</i>	W	1 credit	2S				
101-0522-10 S	Doctoral Seminar Data Science and Machine Learning in Civil, Env. and Geospatial Engineering ■ <i>Does not take place this semester.</i>			2 hrs				<b>B. Soja</b> , E. Chatzi, F. Corman, O. Fink, I. Hajnsek, K. Schindler
101-0523-12L	<b>Frontiers in Machine Learning Applied to Civil, Env. and Geospatial Engineering (HS21)</b> <i>Number of participants limited to 21.</i>	W	1 credit	2S				
101-0523-12 S	Frontiers in Machine Learning Applied to Civil, Env. and Geospatial Engineering (HS21) ■ <i>Starting time: 13:45.</i>			2 hrs	Wed/2w 14-16	ON LINE		<b>M. A. Kraus</b> , E. Chatzi, F. Corman, O. Fink, I. Hajnsek, M. Lukovic, K. Schindler, B. Soja, B. Sudret, M. J. Van Strien
101-0139-00L	<b>Scientific Machine and Deep Learning for Design and Construction in Civil Engineering</b>	W	3 credits	4G				
101-0139-00 G	Scientific Machine and Deep Learning for Design and Construction in Civil Engineering <i>14-16 theory 16-18 group work</i>			4 hrs	Mon 14-18	HPK D3		<b>M. A. Kraus</b> , D. Griego
101-0522-11L	<b>Doctoral Seminar: Computational Science in Civil, Env. and Geomatic Engineering</b>	W	1 credit	0.5G				
101-0522-11 G	Doctoral Seminar: Computational Science in Civil, Env. and Geomatic Engineering <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			0.5 hrs	Tue/2w 13-14	ON LINE		<b>D. Kammer</b> , D. F. Vetsch

### Doctoral Department of Civil, Environmental and Geomatic Engineering - Key for Type

O	Compulsory	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	W+	Eligible for credits and recommended

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Doctoral Department Biology

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

Number	Title	Type	ECTS	Hours					Lecturers
Course Catalogue of ETH Zurich									
376-1791-00L	<b>Introductory Course in Neuroscience I (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: SPV0Y005</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	2 credits	2V					
376-1791-00 V	Introductory Course in Neuroscience I (University of Zurich) <b>**together with University of Zurich**</b>  <i>Kurs des Zentrums für Neurowissenschaften Zürich (ZNZ)</i>  <i>Beginn 20.09.2021</i>			2 hrs	Mon	16-18	UNI ZH.	University lecturers	
151-0927-00L	<b>Rate-Controlled Separations in Fine Chemistry</b>	W	6 credits	3V+1U					
151-0927-00 V	Rate-Controlled Separations in Fine Chemistry <i>The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.</i>			3 hrs	Thu	11-14	ML F34	<b>M. Mazzotti</b> , V. Becattini	
151-0927-00 U	Rate-Controlled Separations in Fine Chemistry <i>The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.</i>			1 hrs	Thu	14-15	ML F34	<b>M. Mazzotti</b> , V. Becattini	
401-0649-00L	<b>Applied Statistical Regression</b>	W	5 credits	2V+1U					
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon	08-10	HG E1.2	<b>M. Dettling</b>	
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>			1 hrs	Mon/2w	10-12	HG E1.2	<b>M. Dettling</b>	
551-1619-00L	<b>Structural Biology</b>	W	1 credit	1K					
551-1619-00 K	Strukturbiologie <i>Does not take place this semester. Raum: HPK D3, ETH-Hönggerberg</i>			1 hrs	by appt.				<b>R. Glockshuber</b> , F. Allain, N. Ban, K. Locher, M. Pilhofer, E. Weber-Ban, K. Wüthrich
851-0180-00L	<b>Research Ethics</b> <i>Number of participants limited to 40</i>  <i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>	W	2 credits	2G					
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1	<b>G. Achermann</b> , P. Emch	
401-5640-00L	<b>ZüKoSt: Seminar on Applied Statistics</b>	E-	0 credits	1K					
401-5640-00 K	ZüKoSt: Seminar on Applied Statistics <b>**gemeinsam mit der Universität Zürich**</b>  <i>Zeit: 15:15-16:30</i> <i>Nach besonderem Programm gemäss Ankündigung, Koordination M. Kalisch Tel. 044 632 3435</i>			10s hrs	Fri	15-17	HG G19.1	<b>M. Kalisch</b> , F. Balabdaoui, A. Bandeira, P. L. Bühlmann, R. Furrer, L. Held, T. Hothorn, M. H. Maathuis, M. Mächler, L. Meier, M. Robinson, C. Strobl, S. van de Geer	
551-1109-00L	<b>Seminars in Microbiology</b>	E-	0 credits	2K					
551-1109-00 K	Seminars in Microbiology <i>In autumn semester 2021, the seminar will be conducted hybrid, some seminar units will only take place via Zoom and others on site with a parallel broadcasting. Information on the individual seminar units can be found at <a href="https://micro.biol.ethz.ch/events/microbiology-seminars.html">https://micro.biol.ethz.ch/events/microbiology-seminars.html</a>.</i>			2 hrs	Wed 03.01.-04.02.	16-18 16-18	HCI J7 HCI J3	<b>S. Sunagawa</b> , W.-D. Hardt, M. Künzler, J. Piel, J. Vorholt-Zambelli	
401-0620-00L	<b>Statistical Consulting</b>	E-	0 credits	0.1K					
401-0620-00 K	Statistischer Beratungsdienst <i>Web: <a href="http://stat.ethz.ch/consulting">http://stat.ethz.ch/consulting</a></i> <i>E-Mail: <a href="mailto:beratung@stat.math.ethz.ch">beratung@stat.math.ethz.ch</a></i> <i>Tel: 044 632 2223</i>			0.1 hrs	by appt.				<b>M. Kalisch</b> , <b>L. Meier</b>
551-0512-00L	<b>Current Topics in Molecular and Cellular Neurobiology</b> <i>Number of participants limited to 8.</i>	W	2 credits	1S					
551-0512-00 S	Current Topics in Molecular and Cellular Neurobiology <i>Does not take place this semester. Permission from lecturers required for all students</i> <i>This course may be taken only once, either in the spring semester or in the autumn semester.</i>			1 hrs					<b>U. Suter</b>

<b>551-0737-00L</b>	<b>Ecology and Evolution: Interaction Seminar</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
551-0737-00 S	Ecology and Evolution: Interaction Seminar ■			2 hrs	by appt.				<b>S. Bonhoeffer</b>
<b>551-0509-00L</b>	<b>Current Immunological Research in Zurich</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>					
551-0509-00 K	Current Immunological Research in Zurich			12s hrs	by appt.				<b>R. Spörri</b> , M. Detmar, C. Halin Winter, W.-D. Hardt, M. Kopf, S. R. Leibundgut, A. Oxenius, University lecturers
<b>551-1615-00L</b>	<b>NMR Methods for Studies of Biological Macromolecules</b> <i>Prerequisites: Basic knowledge in biological NMR spectroscopy.</i>	<b>W</b>	<b>1 credit</b>	<b>2S</b>					
551-1615-00 S	NMR Methods for Studies of Biological Macromolecules			2 hrs	Wed	14-16	HPK D3		<b>A. D. Gossert</b>
<b>551-1409-00L</b>	<b>RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-1409-00 V	RNA Biology Lecture Series II: Non-coding RNAs: Biology and Therapeutics			2 hrs	Thu	16-18	HCI H8.1		<b>J. Hall</b> , M. Stoffel, further lecturers
<b>551-1407-00L</b>	<b>RNA Biology Lecture Series I: Transcription &amp; Processing &amp; Translation</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-1407-00 V	RNA Biology Lecture Series I: Transcription & Processing & Translation <i>Does not take place this semester.</i>			2 hrs					<b>F. Allain</b> , N. Ban, U. Kutay, further lecturers
<b>701-0015-00L</b>	<b>Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement</b> <i>Number of participants limited to 20. Priority is given to PhD students D-USYS.</i>  <i>All participants will be on the waiting list at first. Enrollment is possible until 15 September 2021. The waiting list is active until 17 September. All students will be informed on 19 September, if they can participate in the lecture. The lecture takes place if a minimum of 12 students register for it..</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
701-0015-00 S	Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement <i>Irregular course</i>			2 hrs	Wed/2w	08-12	CHN K77		<b>M. Stauffacher</b> , C. E. Pohl, B. Vienni Baptista
<b>551-1423-00L</b>	<b>Current Topics in Metabolism and Disease</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>					
551-1423-00 S	Current Topics in Metabolism and Disease <i>Does not take place this semester. Permission from lecturers required for all students. Findet ab HS2021 nicht mehr statt.</i>			1 hrs					to be announced
<b>551-0030-01L</b>	<b>Doctoral Thesis</b>	<b>E-</b>	<b>0 credits</b>						
551-0030-01 A	Doktorarbeit								
									Professors

#### Doctoral Department Biology - Key for Type

W	Eligible for credits	O	Compulsory
E-	Recommended, not eligible for credits	W+	Eligible for credits and recommended
Dr	Suitable for doctorate	Z	Courses outside the curriculum

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Doctoral Department of Biosystems Science and Engineering

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

Number	Title	Type	ECTS	Hours	Lecturers
636-0301-00L	<b>Current Topics in Biosystems Science and Engineering</b> <i>For doctoral students only. Master's students cannot receive credits for the seminar.</i>	W	2 credits	1S	
636-0301-00 S	Current Topics in Biosystems Science and Engineering <i>Does not take place this semester.</i>			1 hrs	<b>R. Platt</b> , N. Beerenwinkel, Y. Benenson, K. M. Borgwardt, P. S. Dittrich, M. Fussenegger, A. Hierlemann, D. Iber, M. H. Khammash, D. J. Müller, S. Panke, S. Reddy, T. Schroeder, J. Stelling, B. Treutlein

Course Catalogue of ETH Zurich

636-0309-00L	<b>Advances in Molecular Biotechnology</b>	W	2 credits	2S					
636-0309-00 S	Advances in Molecular Biotechnology			2 hrs	Wed	11-12	BSA E60	<b>M. Fussenegger</b>	

### Doctoral Department of Biosystems Science and Engineering - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.



# Doctoral Department of Chemistry and Applied Biosciences

Further information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

### ►► Doctoral Studies in Inorganic Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0169-00L</b>	<b>Instrumental Analysis</b>	<b>E-</b>	<b>0 credits</b>	<b>2S</b>				
529-0169-00 S	Instrumental Analysis			2 hrs	Tue	16-18	HCI J141	<b>D. Günther</b>
<b>529-0198-00L</b>	<b>Main Group Element and Coordination Chemistry</b>	<b>E-</b>	<b>0 credits</b>	<b>2S</b>				
529-0198-00 S	Hauptgruppen- und Koordinationschemie			2 hrs	Thu	10-12	HCI J141	<b>H. Grützmacher</b>
<b>529-0199-00L</b>	<b>Inorganic and Organometallic Chemistry</b>	<b>E-</b>	<b>0 credits</b>	<b>2K</b>				
529-0199-00 K	Inorganic and Organometallic Chemistry			2 hrs	Tue	18-20	HCI J7	<b>C. Copéret</b> , H. Grützmacher, D. Günther, M. Kovalenko, V. Mougel
<b>529-0455-00L</b>	<b>Laser for Micro- and Nanostructuring</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
529-0455-00 V	Laser for Micro- and Nanostructuring <i>Die Vorlesung kann auch in Deutsch gehalten werden (nach Vereinbarung).</i>			2 hrs	Wed	10-12	HCI D2	<b>T. Lippert</b>

### ►► Doctoral Studies in Organic Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0280-00L</b>	<b>Analytical Chemistry Seminar</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
529-0280-00 K	Analytische Chemie			1 hrs	Thu	16-18	HCI J4	<b>R. Zenobi</b>
<b>529-0290-00L</b>	<b>Organic Chemistry (Seminar)</b>	<b>E-</b>	<b>0 credits</b>	<b>2S</b>				
529-0290-00 S	Organic Chemistry ■ <i>Permission from lecturers required for all students Jeder Dozent hält dieses Seminar getrennt.</i>			2 hrs	Fri	10-12	HCI G374	<b>E. M. Carreira</b> , J. W. Bode, H. Wennemers, R. Zenobi
<b>529-0299-00L</b>	<b>Organic Chemistry</b>	<b>E-</b>	<b>0 credits</b>	<b>1.5K</b>				
529-0299-00 K	Organic Chemistry			1.5 hrs	Mon	16-20	HCI J7	<b>J. W. Bode</b> , E. M. Carreira, P. Chen, H. Wennemers, R. Zenobi
<b>529-1100-00L</b>	<b>Fragrance Chemistry</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>				
529-1100-00 V	Fragrance Chemistry <i>Does not take place this semester.</i>			1 hrs				

### ►► Doctoral Studies in Physical Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
529-0490-00L	Special Topics in Theoretical Chemistry	E-	0 credits	1S				
529-0490-00 S	Special Topics in Theoretical Chemistry <i>DI 14-16 room HCI G7 blocked for discussions.</i>			1 hrs	Tue	14-15	HCI G7	M. Reiher
529-0460-00L	Computer Simulation	E-	0 credits	1S				
529-0460-00 S	Computer Simulation <i>Gruppenseminar Genaue Zeit: 10.30-11.30</i>			1 hrs	Wed	10-12	HCI G241	P. H. Hünenberger, S. Riniker
529-0427-00L	Electron Spectroscopy	W	1 credit	2S				
529-0427-00 S	Electron Spectroscopy <i>Permission from lecturers required for all students</i>			2 hrs	Mon	10-12	HCI J243	F. Merkt
529-0479-00L	Theoretical Chemistry, Molecular Spectroscopy and Dynamics	W	1 credit	2S				
529-0479-00 S	Theoretical Chemistry, Molecular Spectroscopy and Dynamics			2 hrs	Fri	16-18	HCI J4	F. Merkt, M. Reiher, J. Richardson, R. Signorell, H. J. Wörner
529-0480-00L	Nuclear Magnetic Resonance Seminar	E-	0 credits	2S				
529-0480-00 S	Nuclear Magnetic Resonance Seminar ■ <i>Permission from lecturers required for all students</i>			2 hrs	Tue	10-12	HCI J243	B. H. Meier
529-0489-00L	Introduction to the Construction of Measurement Devices in Physical Chemistry	W	2 credits	2P				
529-0489-00 P	Phys.-chem. Apparatebau ■ <i>Permission from lecturers required for all students Werkstatt-Kurs</i>			2 hrs	Thu	16-19	HCI J243	B. H. Meier
529-0499-00L	Physical Chemistry	W	1 credit	1K				
529-0499-00 K	Physical Chemistry			1 hrs	Tue	16-19	HCI J3	M. Reiher, A. Barnes, G. Jeschke, B. H. Meier, F. Merkt, J. Richardson, R. Riek, S. Riniker, T. Schmidt, R. Signorell, H. J. Wörner
529-0491-00L	Seminar in Computational Chemistry C4	E-	0 credits	2S				
529-0491-00 S	Seminar in Computational Chemistry C4 <i>Eintägiger Workshop nach separater Ankündigung</i>			2 hrs				M. Reiher, J. Richardson

402-0551-00L	Laser Seminar	E-	0 credits	1S	1 hrs	Mon	18-19	HPF G6	T. Esslinger, J. Faist, J. Home, U. Keller, F. Merkt, H. J. Wörner
529-0481-00L	Advanced High Resolution Molecular Spectroscopy	W	1 credit	1V					
529-0481-00 V	Advanced High Resolution Molecular Spectroscopy Block course			15s hrs	01.12.	16-18	n /a		S. Albert
					02.12.	16-18	n /a		
					03.12.	16-18	n /a		
					06.12.	16-18	n /a		
					07.12.	16-18	n /a		
					08.12.	16-18	n /a		
					09.12.	16-18	n /a		
					10.12.	16-18	n /a		
					13.12.	16-18	n /a		
529-0470-00L	Literature Seminar in Theoretical Chemistry	Z	0 credits	2S					
529-0470-00 S	Literature Seminar in Theoretical Chemistry			2 hrs	Wed	14-16	HCI G232		M. Reiher
529-0485-00L	Calculating Free Energy Differences from Molecular Simulation: Theory and Practical Applications	W	1 credit	1V					
529-0485-00 V	Calculating Free Energy Differences from Molecular Simulation: Theory and Practical Applications This is a block course and will be held from 10.01.2022-14.01.2022.			15s hrs	10.01.-14.01.	09-12	HCI F8		N. Hansen
529-0809-00L	Theoretical Chemistry Seminar	E-	0 credits	2S					
529-0809-00 S	Theoretical Chemistry Seminar Presentations will be announced on: <a href="https://reiher.ethz.ch/courses-and-seminars/theoretical-chemistry.html">https://reiher.ethz.ch/courses-and-seminars/theoretical-chemistry.html</a> (and also in elevators etc. in the HCI building)			2 hrs	by appt.				M. Reiher, J. Richardson
►► Doctoral Studies in Chemical and Bioengineering									
Number	Title	Type	ECTS	Hours					Lecturers
529-0690-00L	ICB Seminars on Chemical and Biochemical Engineering	W	1 credit						
529-0690-00 S	ICB Seminars on Chemical and Biochemical Engineering			3s hrs	by appt.				P. Arosio
►► Doctoral Studies in Polymer Science									
Number	Title	Type	ECTS	Hours					Lecturers
529-0585-00L	Reactivity in Micelles and Vesicles	W	1 credit	1V					
529-0585-00 V	Reactivity in Micelles and Vesicles			1 hrs	Fri	11-12	HCI F2		P. J. Walde
►► Doctoral Studies in Pharmaceutical Sciences									
Number	Title	Type	ECTS	Hours					Lecturers
535-2000-00L	Seminar for Group Members	W	0 credits	2S					
535-2000-00 S	Seminar for Group Members ■ Does not take place this semester. Permission from lecturers required for all students			2 hrs					G. Schneider
535-0900-00L	Seminars on Drug Discovery and Development	E-	1 credit	1K					
535-0900-00 K	Seminars on Drug Discovery and Development Seminar starts at 5 p.m. Guests and titles are published in the ETH Events Calender.			1 hrs	Wed	17-18	HCI D2		R. Schibli, K.-H. Altmann, M. Detmar, K. Eyer, C. Halin Winter, J. Hall, J.-C. Leroux, U. Quitterer, G. Schneider, H. U. Zeilhofer
535-0901-00L	From A to Z in Drug Discovery and Development	Z	1 credit	2S					
535-0901-01 S	From A to Z in Drug Discovery and Development I			1 hrs	Wed/1	08-10	HCI J3		J. Hall, K.-H. Altmann, M. Arand, J. Scheuermann, R. Schibli, H. U. Zeilhofer
535-0901-02 S	From A to Z in Drug Discovery and Development II			1 hrs	Wed/2	08-10	HCI J3		J. Hall, K.-H. Altmann, M. Arand, J. Scheuermann, R. Schibli, H. U. Zeilhofer
►► Additional Courses									
Number	Title	Type	ECTS	Hours					Lecturers
529-0195-00L	Scientific Information Retrieval & Management in Life Sciences and Chemistry	W	2 credits	2V					
529-0195-00 V	Scientific Information Retrieval & Management in Life Sciences and Chemistry			2 hrs	Wed	16-18	HCI J3		O. Renn, L. Betschart, J. Dolenc
Course Catalogue of ETH Zurich									

**Doctoral Department of Chemistry and Applied Biosciences - Key for Type**

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Doctoral Department of Earth Sciences

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

Number	Title	Type	ECTS	Hours				Lecturers
651-0254-00L	<b>Seminar Geochemistry and Petrology</b>	E-	0 credits	2S				<b>O. Bachmann, M. Schönbächler, C. Chelle-Michou, M. W. Schmidt, D. Vance</b>
651-0254-00 S	Seminar Geochemistry and Petrology <i>External and occasional internal speakers addressing current research topics. Changing programs announced through the event calendar of the department of Earth Sciences on <a href="http://www.geopetro.ethz.ch/news-events.html">http://www.geopetro.ethz.ch/news-events.html</a></i>			2 hrs	Thu	16-18	NO C6	
<i>Course Catalogue of ETH Zurich</i>								
651-1617-00L	<b>Geophysical Fluid Dynamics and Numerical Modelling Seminar</b>	E-	0 credits	1S				<b>P. Tackley, T. Gerya</b>
651-1617-00 S	Geophysical Fluid Dynamics and Numerical Modelling Seminar			1 hrs	Wed	12-13	NO F39	
651-4931-00L	<b>Seminar I: Heat and Mass Transfers in Magmatology</b>	W	1 credit	1S				<b>O. Bachmann, C. Chelle-Michou</b>
651-4931-00 S	Seminar I: Heat and Mass Transfers in Magmatology <i>Does not take place this semester. This seminar will present some of the latest developments in the dynamics of magmatic systems on Earth and other terrestrial planets.</i>			14s hrs				
651-1180-00L	<b>Research Seminar Structural Geology and Tectonics</b>	Z	0 credits	1S				<b>W. Behr</b>
651-1180-00 S	Research Seminar Structural Geology and Tectonics			1 hrs	Wed	18-19	NO C6	

### Doctoral Department of Earth Sciences - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Doctoral Department of Humanities, Social and Political Sciences

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

Number	Title	Type	ECTS	Hours					Lecturers
Course Catalogue of ETH Zurich									
851-0587-01L	<b>CIS PhD Colloquium</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 615G932C</i>	<b>W</b>	<b>2 credits</b>	<b>2K</b>					
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/appliation/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/appliation/deadlines.html</a></i>								
851-0587-01 K	CIS PhD Colloquium (University of Zürich) <b>**together with University of Zurich**</b>			26s hrs	Thu	14-17	UNI ZH.	University lecturers	
	<i>Ort: Institut für Politikwissenschaft, Cityport, Affolternstr. 56, Zürich Oerlikon</i>								
851-0626-02L	<b>PhD Colloquium in Development Economics</b>	<b>W</b>	<b>1 credit</b>	<b>1K</b>					
851-0626-02 K	PhD Colloquium in Development Economics ■ <i>Blockkurs an 2 Tagen im Herbstsemester Interessierte PhD Studenten sollen sich bitte bis zum 30.September 2021 per Email an Kenneth Hartgen wenden.</i>			1 hrs	<b>I. Günther, K. Harttgen</b>				
851-0735-10L	<b>Business Law</b> <i>Number of participants limited to 100</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
	<i>Particularly suitable for students of D-ITET, D-MAVT</i>								
851-0735-10 V	Wirtschaftsrecht			2 hrs	Thu	14-16	HG D1.2	<b>P. Peyrot</b>	
851-0735-09L	<b>Workshop &amp; Lecture Series on the Law &amp; Economics of Innovation</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
851-0735-09 S	Workshop & Lecture Series on the Law & Economics of Innovation <b>**together with University of Zurich**</b>			28s hrs	Tue Wed 22.09.	16-18 16-18 16-18	UNI ZH. IFW A32.1 ML E12	<b>S. Bechtold, H. Gersbach</b>	
	<i>Unregelmässige Veranstaltung. Findet alternierende an der UZH und an der ETH statt.</i>								
851-0738-00L	<b>Intellectual Property: Introduction</b> <i>Particularly suitable for students of D-CHAB, D-INFK, D-ITET, D-MAVT, D-MATL, D-MTEC</i>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>					
851-0738-00 V	Geistiges Eigentum: Eine Einführung <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online (via Zoom) statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	HG D7.1	<b>M. Schweizer</b>	
851-0738-01L	<b>The Role of Intellectual Property in the Engineering and Technical Sector</b> <i>Particularly suitable for students of D-BAUG, D-BIOL, D-BSSE, D-CHAB, D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0738-01 V	Die Rolle des Geistigen Eigentums im Ingenieurwesen und den technischen Wissenschaften			28s hrs	Fri/2w	14-18	LFW B1	<b>K. Houshang Pour Islam</b>	
851-0252-04L	<b>Behavioral Studies Colloquium</b>	<b>Z</b>	<b>0 credits</b>	<b>2K</b>					
851-0252-04 K	Behavioral Studies Colloquium			2 hrs	Tue	12-14	HG E33.3	<b>E. Stern, U. Brandes, D. Helbing, C. Hölscher, M. Kapur, C. Stadtfeld</b>	
851-0252-01L	<b>Human-Computer Interaction: Cognition and Usability</b> <i>Number of participants limited to 35.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
	<i>Particularly suitable for students of D-ARCH, D-INFK, D-ITET</i>								
851-0252-01 S	Human-Computer Interaction: Cognition and Usability <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Mon	14-16	ON LINE	<b>H. Zhao, S. Credé, C. Hölscher</b>	
851-0252-05L	<b>Research Seminar Cognitive Science</b> <i>Prerequisite: Participants should be involved in research in the cognitive science group.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
851-0252-05 S	Research Seminar Cognitive Science ■ <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Wed	10-12	ON LINE	<b>C. Hölscher, S. Andraszewicz</b>	
851-0585-41L	<b>Computational Social Science</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					

851-0585-41 S	Computational Social Science ■ <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>		2 hrs	Tue	18-20	RZ F21	<b>D. Helbing</b> , J. Argota Sánchez-Vaquerizo, M. Korecki
<b>851-0609-06L</b>	<b>Governing the Energy Transition</b> <i>Primarily suited for Master and PhD level.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
851-0609-06 V	Governing the Energy Transition		2 hrs	Thu	16-18	NO C60	<b>T. Schmidt</b> , N. Schmid, S. Sewerin
<b>851-0105-00L</b>	<b>Background Knowledge Arabic World</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
851-0105-00 V	Hintergrundwissen arabische Welt		2 hrs	Wed	18-20	HG E33.1	<b>U. Göskén</b>
<b>851-0252-10L</b>	<b>Project in Behavioural Finance</b> <i>Number of participants limited to 40</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>			
	<i>Particularly suitable for students of D-MTEC</i>						
851-0252-10 S	Project in Behavioural Finance <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>		2 hrs	Wed	10-12	ON LINE	<b>S. Andraszewicz</b> , C. Hölscher, A. C. Roberts
<b>701-0015-00L</b>	<b>Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement</b> <i>Number of participants limited to 20. Priority is given to PhD students D-USYS.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
	<i>All participants will be on the waiting list at first. Enrollment is possible until 15 September 2021. The waiting list is active until 17 September. All students will be informed on 19 September, if they can participate in the lecture. The lecture takes place if a minimum of 12 students register for it.</i>						
701-0015-00 S	Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement <i>Irregular course</i>		2 hrs	Wed/2w	08-12	CHN K77	<b>M. Stauffacher</b> , C. E. Pohl, B. Vienni Baptista
<b>851-0252-13L</b>	<b>Network Modeling</b> <i>Particularly suitable for students of D-INFK and in the MSc Data Science</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
	<i>Students are required to have basic knowledge in inferential statistics, such as regression models.</i>						
851-0252-13 V	Network Modeling		2 hrs	Mon	16-18	IFW A32.1	<b>C. Stadtfeld</b> , V. Amati
<b>851-0252-15L</b>	<b>Network Analysis</b> <i>Particularly suitable for students of D-INFK, D-MATH</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
851-0252-15 V	Network Analysis		2 hrs	Wed	18-20	ML F36	<b>U. Brandes</b>
<b>851-0742-00L</b>	<b>Contract Design I</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://laweconbusiness.ethz.ch/group/Professor/stremitzer.html">https://laweconbusiness.ethz.ch/group/Professor/stremitzer.html</a>). Note that this is NOT a legal drafting class that focuses on contractual language. Instead, in Contract Design I, you will learn what the content of a contract should be so that parties can reach their goals.</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
	<i>You can find all course materials and the most recent announcements on Moodle. Please log in to Moodle using your ETH or UZH credentials. Then search for "Contract Design I (851-0742-00L; Fall 2021)" and enroll. The password is "ContractDesign01".</i>						
	<i>Number of participants limited to 160. Max 80 ETHZ and 80 UZH Students</i>						
851-0742-00 V	Contract Design I <i>The course is going to take place twice a week (Monday and Thursday) during the first half of the Semester.</i>		28s hrs	Mon/1 Thu/1	16-18 12-14	ETF E1 ETF E1	<b>A. Stremitzer</b>
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>						
<b>851-0732-06L</b>	<b>Law &amp; Tech</b> <i>Number of participants limited to 30.</i>	<b>W</b>	<b>3 credits</b>	<b>3S</b>			
851-0732-06 S	Law & Tech ■ <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>		40s hrs	Tue Wed	10-12 10-12	IFW A32.1 IFW A32.1	<b>A. Stremitzer</b> , J. Merane, A. Nielsen

851-0101-86L	<b>Complex Social Systems: Modeling Agents, Learning, and Games</b> <i>Number of participants limited to 100.</i>	W	3 credits	2S						
	<i>Prerequisites: Basic programming skills, elementary probability and statistics.</i>									
851-0101-86 S	Complex Social Systems: Modeling Agents, Learning, and Games <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>		2 hrs		Mon	16-18	HG D7.2		<b>N. Antulov-Fantulin, T. Asikis, D. Helbing</b>	
851-0252-08L	<b>Evidence-Based Design: Methods and Tools For Evaluating Architectural Design</b> <i>Number of participants limited to 40</i>	W	3 credits	2S						
	<i>Particularly suitable for students of D-ARCH</i>									
851-0252-08 S	Evidence-Based Design: Methods and Tools For Evaluating Architectural Design		2 hrs		Fri	10-12	HIL E10.1		<b>M. Gath Morad, C. Hölscher, L. Narvaez Zertuche, C. Veddeler</b>	
851-0586-03L	<b>Applied Network Science: Social Media Networks</b> <i>Number of participant limited to 20</i>	W	3 credits	1S						
851-0586-03 S	Applied Network Science: Social Media Networks <i>Irregular course. The seminar ends with a full-day conference on 10.12.2021 (subject to confirmation).</i>		17s hrs		Thu/10.12.	18-2009-19	HG E33.1HG E33.1		<b>U. Brandes</b>	
	<i>Online lecture: This lecture will primarily take place online (except the full-day conference) . Reserved rooms will remain blocked on campus for students to follow the course from there.</i>									
851-0253-07L	<b>Consciousness Studies</b> <i>Number of participants limited to 80.</i>	W	2 credits	2V						
851-0253-07 V	Consciousness Studies		2 hrs		Tue	16-18	IFW A36		<b>K. Stocker</b>	
851-0745-00L	<b>Ethics Workshop: The Impact of Digital Life on Society</b> <i>Number of participants limited to 40.</i>	W	2 credits	2S						
	<i>Open to all Master level / PhD students.</i>									
851-0745-00 S	Ethics Workshop: The Impact of Digital Life on Society <i>Block course three days.</i>		24s hrs		10.11.11.11.24.11.	09-1709-1709-17	IFW C42IFW C42IFW C42		<b>E. Vayena, A. Blasimme, C. Brall, J. Sleight</b>	
851-0760-00L	<b>Building a Robot Judge: Data Science for Decision-Making</b> <i>Particularly suitable for students of D-INFK, D-ITET, D-MTEC</i>	W	3 credits	2V						
851-0760-00 V	Building a Robot Judge: Data Science for Decision-Making <i>Online lecture: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>		2 hrs		Mon	14-16	ETZ E8		<b>E. Ash</b>	
851-0761-00L	<b>Building a Robot Judge: Data Science for Decision-Making (Course Project)</b> <i>This is the optional course project for "Building a Robot Judge: Data Science for the Law."</i>	W	2 credits	2V						
	<i>Please register only if attending the lecture course or with consent of the instructor.</i>									
	<i>Some programming experience in Python is required, and some experience with text mining is highly recommended.</i>									
851-0761-00 V	Building a Robot Judge: Data Science for Decision-Making (Course Project) <i>Mondays, 12 - 2 pm. Same dates and room as for the lecture course 851-0760-00 V Building a Robot Judge: Data Science for Decision-Making.</i>		28s hrs						<b>E. Ash</b>	
851-0157-00L	<b>Mind and Brain</b>	W	3 credits	2V						
851-0157-00 V	Gehirn und Geist		2 hrs		Tue28.09.05.10.	18-2018-2018-20	IFW A36HG F3HG F3		<b>M. Hagner</b>	
851-0337-00L	<b>African Intellectual and Artistic Presence: From "Négritude" to the "Ateliers de la pensée"</b>	W	3 credits	2V						
851-0337-00 V	Présence intellectuelle et artistique Africaine : de la négritude aux Ateliers de la pensée		2 hrs		Tue	16-18	LFO C13		<b>F. Sarr</b>	
851-0011-00L	<b>The Body in Global History</b>	W	3 credits	2S						
851-0011-00 S	The Body in Global History		2 hrs		Wed	10-12	HG E33.3		<b>E. Valdameri</b>	
851-0422-00L	<b>A Modern Utopia: Science and Visions of the Future</b>	W	3 credits	2S						

851-0422-00 S	A Modern Utopia: Science and Visions of the Future	2 hrs	Thu	18-20	IFW B42	A. Fryxell
<b>851-0499-00L</b>	<b>Globalization – Theories, Concepts, Aspects</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0499-00 V	Globalisierung – Theorien, Konzepte, Aspekte	2 hrs	Wed	18-20	IFW A32.1	S. M. Scheuzger
<b>851-0336-00L</b>	<b>Eros: Athens, Rome, Vienna, Paris</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0336-00 V	Eros: Atene, Roma, Vienna, Parigi	2 hrs	Thu	16-18	LFO C13	G. Sissa
<b>851-0101-72L</b>	<b>The Modern City and Cultural Criticism. The "Knowledge of Life" in Reform Movements 1880-1933</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0101-72 V	Moderne Grossstadt und Kulturkritik. Das "Wissen vom Leben" in den Reformbewegungen 1880-1933	2 hrs	Thu	14-16	IFW B42	S. S. Leuenberger
<b>851-0536-00L</b>	<b>Technology and the Environment – on Course for Collision?</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>		
851-0536-00 S	Technology and the Environment – on Course for Collision?	2 hrs	Wed	12-14	IFW C33	L. Müller
<b>851-0742-01L</b>	<b>Contract Design II</b>	<b>W</b>	<b>1 credit</b>	<b>1U</b>		
	<i>This course is taught by Professor Alexander Stremitzer (<a href="https://lawecon.ethz.ch/group/professors/stremitzer.html">https://lawecon.ethz.ch/group/professors/stremitzer.html</a>). To be considered for Contract Design II, you must have completed Contract Design I in the same semester. Students can only register for Contract Design II after having obtained approval by Prof. Stremitzer.</i>					
851-0742-01 U	Contract Design II The course is going to take place twice a week (Mon and Thurs) during the second half of the Semester (ETH students only).	16s hrs	Mon/2 Thu/2	16-18 12-14	IFW E42 IFW E42	A. Stremitzer
<b>851-0551-18L</b>	<b>Colloquium for Master and PhD Students History of Technology (HS 2021)</b>	<b>W</b>	<b>2 credits</b>	<b>1K</b>		
851-0551-18 K	Master-/Doktoratskolloquium Technikgeschichte (HS 2021) Daten werden noch kommuniziert.	14s hrs				D. Gugerli
<b>851-0535-10L</b>	<b>Yemen: A Failed State?</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>		
851-0535-10 V	Yemen: A Failed State?	2 hrs	Tue	12-14	HG E33.5	E. Manea
<b>851-0062-00L</b>	<b>Doctoral Seminar «History of Knowledge» (University of Zurich)</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>		
	<i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 600G134E</i>					
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>					
851-0062-00 S	Doktorierendenseminar «Geschichte des Wissens» (Universität Zürich) **Course at University of Zurich**	14s hrs	Wed/2w	10-12	UNI ZH.	University lecturers
<b>851-0125-65L</b>	<b>A Sampler of Histories and Philosophies of Mathematics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
	<i>Particularly suitable for students D-CHAB, D-INFK, D-ITET, D-MATH, D-PHYS</i>					
851-0125-65 V	A Sampler of Histories and Philosophies of Mathematics	2 hrs	Mon	16-18	ML E12	R. Wagner
<b>851-0125-76L</b>	<b>Critiques of Scientific Objectivity</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>		
	<i>Number of participants limited to 30.</i>					
851-0125-76 S	Critiques of Scientific Objectivity	2 hrs	Fri	16-18	IFW A34	R. Wagner
<b>851-0197-00L</b>	<b>Medieval and Early Modern Science and Philosophy</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0197-00 V	Medieval and Early Modern Science and Philosophy	2 hrs	Thu	12-14	IFW A36	E. Sammarchi
<b>851-0255-00L</b>	<b>Introduction to Methods in Learning Sciences II</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
	<i>Course registration targeted at students interested in learning sciences research and higher education. Language of performance assessment will be English.</i>					
851-0255-00 S	Introduction to Methods in Learning Sciences II Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.	2 hrs	Thu	12-14	IFW C33	M. Kapur, T. Sinha
<b>851-0256-00L</b>	<b>Future Learning Initiative Colloquium</b>	<b>W</b>	<b>0.5 credits</b>	<b>1K</b>		
851-0256-00 K	Future Learning Initiative Colloquium	10s hrs	24.09. 29.10. 26.11. 17.12.	16-18 16-18 16-18 16-18	IFW A32.1 IFW A32.1 IFW A32.1 IFW A32.1	M. Kapur
<b>851-0301-11L</b>	<b>The Unconditionality of Knowledge: Faust in European Literature</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0301-11 V	Unbedingtheit des Wissens: Faust in der europäischen Literatur	2 hrs	Wed	12-14	IFW A32.1	A. Kilcher
<b>851-0087-00L</b>	<b>Knowledge and Practice in Philosophy</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>		



<b>of War</b>								
851-0087-00 S	Knowledge and Practice in Philosophy of War <i>Does not take place this semester.</i>		2 hrs					
<b>851-0107-00L</b>	<b>Science and the Public: A Problem of Mediation that the Media Have to Solve?</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>				
851-0107-00 S	Wissenschaft und Öffentlichkeit - ein Vermittlungsproblem, das die Medien zu lösen haben? <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>		1 hrs	Wed/2w 14-16	IFW D42		<b>U. J. Wenzel</b>	
<b>851-0063-00L</b>	<b>Histories of Knowledge in Society (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 600G135E</i>	<b>W</b>	<b>2 credits</b>	<b>1S</b>				
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>							
851-0063-00 S	Geschichten von Wissen in Gesellschaft (Universität Zürich) <b>**Course at University of Zurich**</b>		18s hrs				University lecturers	
	<i>Blockkurs: 13.09.-15.09.2021</i>							
<b>851-0064-00L</b>	<b>Writing and Publishing Reviews (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 600G133E</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>				
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>							
851-0064-00 S	Rezensionen schreiben und publizieren (Universität Zürich) <b>**Course at University of Zurich**</b>		7s hrs				University lecturers	
	<i>Blockkurs: 22.10.2021, 13–17 Uhr / 10.12.2021, 13–16 Uhr</i>							
<b>862-0004-13L</b>	<b>Research Colloquium Philosophy for Master Students and PhD (HS 2021)</b> <i>For MAGPW and PhD students of D-GESS only.</i>	<b>W</b>	<b>2 credits</b>	<b>1K</b>				
862-0004-00 K	Forschungskolloquium Philosophie mit Arbeit ■ <i>Anmeldung bei Prof. Michael Hampe, Prof. Roy Wagner oder Prof. Lutz Wingert</i>		14s hrs	Wed/2w 18-20	RZ F21		<b>R. Wagner, M. Hampe, L. Wingert</b>	
<b>862-0078-11L</b>	<b>Research Colloquium. Extra-European History and Global History (HS 2021)</b> <i>For PhD and postdoctoral students. Master students are welcome.</i>	<b>W</b>	<b>2 credits</b>	<b>1K</b>				
	<i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module 06SM600G125E at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>							
862-0078-00 K	Research Colloquium. Extra-European History and Global History <b>**together with University of Zurich**</b>		1 hrs	30.09. 18-20 14.10. 18-20 28.10. 18-20 11.11. 18-20 02.12. 18-20	IFW A36 IFW A36 IFW A36 IFW A36 IFW A36		<b>H. Fischer-Tiné, M. Dusing</b>	
<b>862-0088-09L</b>	<b>Research Colloquium Science Studies (HS 2021)</b>	<b>W</b>	<b>2 credits</b>	<b>1K</b>				
862-0088-00 K	Forschungskolloquium Wissenschaftsforschung (mit Protokoll) ■ <i>Permission from lecturers required for all students Unregelmässige Lehrveranstaltung. Anmeldungen bitte per sekretariat@wiss.gess.ethz.ch</i>		14s hrs	Wed 16-18	RZ F21		<b>M. Hagner</b>	
<b>862-0089-09L</b>	<b>Advanced Colloquium in Literary Studies (HS 2021)</b> <i>Colloquium is designed for advanced and graduated students.</i>	<b>W</b>	<b>2 credits</b>	<b>1K</b>				
862-0089-00 K	Literaturwissenschaftliches Kolloquium ■		14s hrs	Wed 16-18	IFW E42		<b>A. Kilcher</b>	
<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
851-0101-80 G	Grundprobleme der Umweltethik		2 hrs	Wed 16-18	HG G5		<b>L. Wingert</b>	
<b>851-0096-00L</b>	<b>Science in Society</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				

851-0096-00 G	Wissenschaft in der Gesellschaft			2 hrs	Thu	12-14	IFW A32.1	<b>L. Wingert</b>
<b>851-0198-00L</b>	<b>Philosophy of Psychiatry</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
851-0198-00 V	Philosophy of Psychiatry			2 hrs	Wed	16-18	IFW C33	<b>J. Perez Escobar</b>
<b>851-0624-00L</b>	<b>ETH4D PhD Seminar: Research for Development</b>	<b>W</b>	<b>1 credit</b>	<b>1K</b>				
	<i>Number of participants limited to 15.</i>							
851-0624-00 K	ETH4D PhD Seminar: Research for Development ■			20s hrs	18.11. 19.11.	09-18 09-18	IFW C42 IFW C42	<b>I. Günther, A. Rom, E. Tilley</b>
	<i>2-day block course. From HS21 in the autumn semester.</i>							
<b>851-0367-00L</b>	<b>Introduction to EEG Data Analysis</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>				
851-0367-00 S	Introduction to EEG Data Analysis			25s hrs	24.01.- 28.01.	10-16	IFW B42	<b>H. Poikonen</b>
	<i>Block course</i>							
<b>851-0008-00L</b>	<b>Ban on Alcohol and Science: A Global History of Prohibition 1918-1939</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
851-0008-00 S	Alkoholverbot und Wissenschaft: Eine Globalgeschichte der Prohibition 1918-1939			2 hrs	Tue	12-14	LEE C104	<b>E. Biçer-Deveci</b>
<b>851-0651-00L</b>	<b>Communicating Science for Global Development</b>	<b>W</b>	<b>0.5 credits</b>	<b>1S</b>				
851-0651-00 S	Communicating Science for Global Development ■			8s hrs	26.11. 03.12.	09-13 09-13	CLD A1 CLD A1	<b>A. Rom</b>

#### Doctoral Department of Humanities, Social and Political Sciences - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Doctoral Department of Health Sciences and Technology

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Health Sciences and Technology

Number	Title	Type	ECTS	Hours				Lecturers
Course Catalogue of ETH Zurich								
376-0303-00L	Colloquium in Translational Science (Autumn Semester)	W	1 credit	1K				M. Ristow, A. Alimonti, N. Cesarovic, C. Ewald, V. Falk, J. Goldhahn, K. Maniura, R. M. Rossi, S. Schürle-Finke, G. Shivashankar, E. Vayena, V. Vogel
376-0303-00 K	Colloquium in Translational Science (Autumn Semester) 3 block seminars à 3,5 hrs à 60 minutes 09.15-12.15h - ONLINE.  Mittwoch 29.09.2021 09:15 – 12:15 Mittwoch 27.10.2021 09:15 – 12:15 Mittwoch 01.12.2021 09:15 – 12:15			1 hrs				
376-0305-00L	ETHeart Joint Scientific Colloquium (Autumn Semester)	W	1 credit	1K				
376-0305-00 K	ETHeart Joint Scientific Colloquium (Autumn Semester) 4 block seminars.  1) Tuesday 28.09.2021 13 – 16h 2) Tuesday 26.10.2021 13 – 16h 3) Tuesday 30.11.2021 13 – 16h 4) Tuesday 20.12.2021 13 – 16h  The seminars take place online.			1 hrs	N. Cesarovic, V. Falk, H. Rodriguez Cetina Biefer			
376-1791-00L	Introductory Course in Neuroscience I (University of Zurich) No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: SPV0Y005  Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a>	W	2 credits	2V				University lecturers
376-1791-00 V	Introductory Course in Neuroscience I (University of Zurich) **together with University of Zurich**  Kurs des Zentrums für Neurowissenschaften Zürich (ZNZ)  Beginn 20.09.2021			2 hrs	Mon	16-18	UNI ZH.	
376-1151-00L	Translation of Basic Research Findings from Genetics and Molecular Mechanisms of Aging Number of participants limited to 30.	W	3 credits	2V				
376-1151-00 V	Translation of Basic Research Findings from Genetics and Molecular Mechanisms of Aging Does not take place this semester. Diese Lehrveranstaltung wird nicht mehr angeboten.			2 hrs				to be announced
701-0015-00L	Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement Number of participants limited to 20. Priority is given to PhD students D-USYS.  All participants will be on the waiting list at first. Enrollment is possible until 15 September 2021. The waiting list is active until 17 September. All students will be informed on 19 September, if they can participate in the lecture. The lecture takes place if a minimum of 12 students register for it..	W	2 credits	2S				M. Stauffacher, C. E. Pohl, B. Vienni Baptista
701-0015-00 S	Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement Irregular course			2 hrs	Wed/2w	08-12	CHN K77	

## ► Food Science

Number	Title	Type	ECTS	Hours	Lecturers		
<b>752-0005-00L</b>	<b>Colloquium in Food and Nutrition Science</b>	<b>E-</b>	<b>1 credit</b>	<b>2K</b>			
752-0005-00 K	Colloquium in Food and Nutrition Science			2 hrs	Tue	18-20	LFO C13 <b>S. J. Sturla</b>
<i>Course Catalogue of ETH Zurich</i>							

**Doctoral Department of Health Sciences and Technology - Key for Type**

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Doctoral Department of Computer Science

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

Number	Title	Type	ECTS	Hours				Lecturers
Course Catalogue of ETH Zurich								
264-5812-00L	<b>Writing for Publication in Computer Science (WPCS)</b> <i>Number of participants limited to 15.</i>  <i>Only for D-INFK doctoral students.</i>	Z	2 credits	1G				
264-5812-00 G	Writing for Publication in Computer Science (WPCS) <b>**Course is offered in collaboration with Language Center of UZH and ETH Zurich**</b> <i>The lecture takes place ONLINE via Zoom (not recorded). The lecturers will communicate the exact lesson times of ONLINE courses.</i> <i>Block course</i>			20s hrs	28.09. 13-16 05.10. 13-16 19.10. 13-16 02.11. 13-16 16.11. 13-16	ON LINE ON LINE ON LINE ON LINE ON LINE	S. Milligan	
252-4202-00L	<b>Seminar in Theoretical Computer Science</b>	W	2 credits	2S				
252-4202-00 S	Seminar in Theoretical Computer Science ■			2 hrs	Tue 12-13 Thu 12-13	CAB G51 CAB G51	E. Welzl, B. Gärtner, M. Ghaffari, M. Hoffmann, J. Lengler, A. Steger, D. Steurer, B. Sudakov	
252-1425-00L	<b>Geometry: Combinatorics and Algorithms</b>	W	8 credits	3V+2U+2A				
252-1425-00 V	Geometry: Combinatorics and Algorithms			3 hrs	Mon 13-14 Thu 14-16	CAB G51 CAB G51	B. Gärtner, E. Welzl, M. Hoffmann, M. Wettstein	
252-1425-00 U	Geometry: Combinatorics and Algorithms			2 hrs	Mon 14-16 23.09. 16-18 30.09. 16-18	CAB G51 CAB G51 CAB G51	B. Gärtner, E. Welzl, M. Hoffmann, M. Wettstein	
252-1425-00 A	Geometry: Combinatorics and Algorithms <i>Project Work, no fixed presence required.</i>			2 hrs			B. Gärtner, E. Welzl, M. Hoffmann, M. Wettstein	
263-2100-00L	<b>Research Topics in Software Engineering</b> <i>Number of participants limited to 22.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S				
263-2100-00 S	Research Topics in Software Engineering <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue 14-16	CHN G46	P. Müller, M. Püschel	
252-0945-13L	<b>Doctoral Seminar Machine Learning (HS21)</b> <i>Only for Computer Science Ph.D. students.</i>  <i>This doctoral seminar is intended for PhD students affiliated with the Institute for Machine Learning. Other PhD students who work on machine learning projects or related topics need approval by at least one of the organizers to register for the seminar.</i>	W	2 credits	1S				
252-0945-00 S	Doctoral Seminar Machine Learning			1 hrs	Tue 12-13	CAB G59	J. M. Buhmann, N. He, A. Krause, G. Rätsch, M. Sachan	
264-5800-18L	<b>Doctoral Seminar in Visual Computing (HS21)</b>	W	1 credit	1S				
264-5800-00 S	Doctoral Seminar in Visual Computing			1 hrs	Fri 12-13	CAB G51	M. Pollefeys, O. Sorkine Hornung, S. Tang	
263-5255-10L	<b>Foundations of Reinforcement Learning (Only Assignments)</b> <i>Only for Ph.D. students!</i>	W	2 credits	4A				
263-5255-10 A	Foundations of Reinforcement Learning (Only Assignments)			60s hrs	N. He			

### Doctoral Department of Computer Science - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Doctoral Dep. of Information Technology and Electrical Engineering

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

A minimum of 12 ECTS credit points must be obtained during doctoral studies.

The courses on offer below are only a small selection out of a much larger available number of courses. Please discuss your course selection with your PhD supervisor.

Number	Title	Type	ECTS	Hours					Lecturers
Course Catalogue of ETH Zurich									
151-0371-00L	Advanced Model Predictive Control Number of participants limited to 40.	W	4 credits	2V+1U					
151-0371-00 V	Advanced Model Predictive Control The lecture will take place on 30.09.21 in HG D 7.2.			2 hrs	Thu 30.09.	10-12 10-12	HG D1.1 HG D7.2	M. Zeilinger, A. Carron, L. Hewing, J. Köhler	
151-0371-00 U	Advanced Model Predictive Control The lecture will take place on 30.09.21 in HG D 7.2.			1 hrs	Thu 30.09.	12-13 12-13	HG D1.1 HG D7.2		
227-0105-00L	Introduction to Estimation and Machine Learning	W	6 credits	4G					
227-0105-00 G	Introduction to Estimation and Machine Learning			4 hrs	Fri	14-18	ETF C1	H.-A. Loeliger	
227-0146-00L	Analog-to-Digital Converters	W	6 credits	2V+2U					
227-0146-00 V	Analog-to-Digital Converters Does not take place this semester.			2 hrs					
227-0146-00 U	Analog-to-Digital Converters Does not take place this semester.			2 hrs					
227-0225-00L	Linear System Theory	W	6 credits	5G					
227-0225-00 G	Linear System Theory			5 hrs	Mon Wed 22.09.	09-12 10-12 10-12	IFW A36 ETZ E6 HG D1.1	A. Iannelli	
227-0377-10L	Physics of Failure and Reliability of Electronic Devices and Systems	W	3 credits	2V					
227-0377-10 V	Physics of Failure and Reliability of Electronic Devices and Systems			2 hrs	Thu	14-16	ETZ K91	I. Shorubalko, M. Held	
227-0417-00L	Information Theory I	W	6 credits	4G					
227-0417-00 G	Information Theory I			4 hrs	Wed	14-18	ETF C1	A. Lapidoth	
227-0427-00L	Signal Analysis, Models, and Machine Learning This course was replaced by "Introduction to Estimation and Machine Learning" and "Advanced Signal Analysis, Modeling, and Machine Learning".	W	6 credits	4G					
227-0427-00 G	Signal Analysis, Models, and Machine Learning Does not take place this semester.			4 hrs					
227-0689-00L	System Identification	W	4 credits	2V+1U					
227-0689-00 V	System Identification			2 hrs	Wed	10-12	HG D7.1	R. Smith	
227-0689-00 U	System Identification			1 hrs	Wed	12-13	ETZ D61.1 HG D7.1	R. Smith	
227-0955-00L	Seminar in Electromagnetics, Photonics and Terahertz	W	3 credits	2S					
227-0955-00 S	Seminar in Electromagnetics, Photonics and Terahertz			2 hrs	Wed	10-12	ETZ K71	J. Leuthold	
227-0974-00L	TNU Colloquium	W	0 credits	2K					
227-0974-00 K	TNU Colloquium Permission from lecturers required for all students Takes place on Thursdays. 10:00 - 12:00 WIL Building, TNU meeting room F105, Translational Neuromodeling Unit, Institute for Biomedical Engineering, Wilfriedstrasse 6, 8032 Zürich. ( <a href="http://www.mapsearch.ethz.ch/map.do?gebaeudeMap=WIL">http://www.mapsearch.ethz.ch/map.do?gebaeudeMap=WIL</a> )			2 hrs					
252-0535-00L	Advanced Machine Learning	W	10 credits	3V+2U+4A					
252-0535-00 V	Advanced Machine Learning Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1			3 hrs	Thu	15-16	ETA F5 ETF E1 HG F1 HG F3	J. M. Buhmann, C. Cotrini Jimenez	
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed	14-16 16-18	CAB G61 CAB G61	J. M. Buhmann, C. Cotrini Jimenez	
252-0535-00 A	Advanced Machine Learning Project Work, no fixed presence required.			4 hrs	Thu Fri	16-18 14-16	ML F34 CAB G61	J. M. Buhmann, C. Cotrini Jimenez	
252-0417-00L	Randomized Algorithms and Probabilistic Methods	W	10 credits	3V+2U+4A					
252-0417-00 V	Randomized Algorithms and Probabilistic Methods			3 hrs	Wed Thu	08-09 16-18	ML D28 ML D28	A. Steger	
252-0417-00 U	Randomized Algorithms and Probabilistic Methods			2 hrs	Tue	14-16 16-18	HG D1.2 HG D1.2	A. Steger	

252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>			4 hrs					<b>A. Steger</b>
<b>263-4500-00L</b>	<b>Advanced Algorithms</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>					
263-4500-00 V	Advanced Algorithms <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Wed	09-12	HG D5.2		<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 U	Advanced Algorithms			2 hrs	Fri	10-12	CAB G59		<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 A	Advanced Algorithms			3 hrs					<b>M. Ghaffari, G. Zuzic</b>
<b>327-2132-00L</b>	<b>Multifunctional Ferroic Materials: Growth and Characterisation</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
327-2132-00 G	Multifunctional Ferroic Materials: Growth and Characterization			2 hrs	Mon	14-16	HCI H8.1		<b>M. Trassin</b>
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
401-3055-64 V	Algebraic Methods in Combinatorics			2 hrs	Wed	10-12	IFW A36		<b>B. Sudakov</b>
401-3055-64 U	Algebraic Methods in Combinatorics			1 hrs	Mon	12-13 13-14	ML F34 ML F34		<b>B. Sudakov</b>
<b>401-5680-00L</b>	<b>Foundations of Data Science Seminar</b>	<b>Z</b>	<b>0 credits</b>						
401-5680-00 K	Foundations of Data Science Seminar <a href="https://www.math.ethz.ch/sfs/news-and-events/data-science-seminar.html">https://www.math.ethz.ch/sfs/news-and-events/data-science-seminar.html</a> <i>Time: 16:15-17:15</i>			3s hrs	23.09. 11.11. 02.12.	16-18 16-18 16-18	HG F3 HG G19.2 HG G19.1		<b>P. L. Bühlmann, A. Bandeira, H. Bölcskei, F. Yang</b>

#### Doctoral Dep. of Information Technology and Electrical Engineering - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.



# Doctoral Department of Management, Technology, and Economics

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral Studies in Management

Number	Title	Type	ECTS	Hours				Lecturers	
364-1013-05L	<b>Organizational Behavior</b> <i>Number of participants limited to 20.</i>	W	1 credit	1S				to be announced	
364-1013-05 S	Organizational Behavior <i>Does not take place this semester. Block course</i>			10.5s hrs					
364-1013-06L	<b>Marketing Theory</b> <i>Number of participants limited to 18.</i>	W	2 credits	1G				F. von Wangenheim	
364-1013-06 G	Marketing Theory ■ <i>Block course</i>			16s hrs	04.11. 11.11. 18.11. 25.11.	08-12 08-12 08-12 08-12	WEV H326 WEV H326 WEV H326 WEV H326		
364-1110-00L	<b>Foundations of Innovation Studies</b>	W	3 credits	2G					S. Brusoni, D. Laureiro Martinez
364-1110-00 G	Foundations of Innovation Studies <i>Irregular lecture</i>			24s hrs	Tue/1	09-13	WEV H326		
364-0553-00L	<b>Innovation in Digital Space</b>	W	1 credit	1G					G. von Krogh
364-0553-00 G	Innovation in Digital Space <i>Does not take place this semester. Permission from lecturers required for all students Blockkurs</i>			16s hrs					
364-1140-00L	<b>Hacking for Social Sciences - An Applied Guide to Programming with Data</b> <i>Basic experience with either R or Python, e.g., a stats course that was taught using R.</i>	W	3 credits	2V				M. Bannert	
364-1140-00 V	Hacking for Social Sciences - An Applied Guide to Programming with Data <i>Block course. The lecturers will communicate the exact lesson times of ONLINE courses.</i>			28s hrs	30.09. 01.10. 21.10. 22.10. 18.11. 19.11. 02.12. 03.12.	10-13 10-14 10-13 10-14 10-13 10-14 10-13 10-14	ON LINE ON LINE ON LINE ON LINE ON LINE ON LINE ON LINE ON LINE		
364-1013-02L	<b>Perspectives on Organizational Knowledge</b>	W	1 credit	1G					Z. Erden Özkol
364-1013-02 G	Perspectives on Organizational Knowledge <i>Block course</i>			9s hrs	11.10. 14.10. 18.10.	14-17 14-17 14-17	WEV J414 WEV J414 WEV J414		

## ► Doctoral Studies in Economics

Number	Title	Type	ECTS	Hours					Lecturers
364-1090-00L	<b>Research Seminar in Contract Theory, Banking and Money (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: DOEC0988</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	3 credits	2S					H. Gersbach, University lecturers
364-1090-00 S	Research Seminar in Contract Theory, Banking and Money (University of Zurich) <i>**gemeinsam mit der Universität Zürich**</i>  <i>An der ETH zuständig: Margrit Buser: mbuser@ethz.ch</i>			2 hrs					
363-1036-00L	<b>Empirical Innovation Economics</b>	W	3 credits	1G					M. Wörter
363-1036-00 G	Empirical Innovation Economics <i>Block course</i>			14s hrs	09.09.	10-13	RZ F21		
						14-17	RZ F21		
					10.09.	10-13	RZ F21		
						14-16	RZ F21		
					09.12.	10-13	LFW B2		
						14-17	LFW B2		
364-0531-00L	<b>CER-ETH Research Seminar</b>	E-	0 credits	2S					H. Gersbach, A. Bommier, L. Bretschger
364-0531-00 S	CER-ETH Research Seminar <i>The lecture starts at 17.15.</i>			2 hrs	Mon	17-19	ZUE G1		
364-0556-00L	<b>Doctoral Workshop: Astute Modelling</b> <i>Prerequisite: Students are expected to attend the course 364-0559-00L "Dynamic Macroeconomics (Doctoral Course)", before registering for this workshop.</i>	W	3 credits	1G					

364-0556-00 G	Doctoral Workshop: Astute Modelling <i>Permission from lecturers required for all students If you wish to participate or if you want more information, please contact Dr. Akaki Mamagishvili: amamagishvili@ethz.ch</i>		1 hrs	Tue/2w	12-14	ZUE G1	H. Gersbach
364-0585-01L	<b>PhD Course: Applied Econometrics</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
364-0585-01 V	PhD Course: Applied Econometrics <i>Block course</i>		28s hrs	31.08. 09-17 01.09. 09-17 02.09. 09-17 03.09. 09-17		LEE E308 LEE E308 LEE E308 LEE E308	P. Egger
364-0581-00L	<b>Microeconomics Seminar (ETH/UZH)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: DOEC6089</i>	<b>E-</b>	<b>0 credits</b>	<b>2S</b>			
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>						
364-0581-00 S	Microeconomics Seminar (ETH/UZH) <i>**together with University of Zurich**</i>		2 hrs				H. Gersbach
	<i>Ansprechperson für die ETH: Volker Britz (vbritz@ethz.ch)</i>						
364-1025-00L	<b>Advanced Microeconomics</b>	<b>E-</b>	<b>3 credits</b>	<b>2G</b>			
364-1025-00 G	Advanced Microeconomics		2 hrs	Thu	09-11	ZUE G1	A. Bommier
364-1058-00L	<b>Risk Center Seminar Series</b>	<b>Z</b>	<b>0 credits</b>	<b>2S</b>			
364-1058-00 S	Risk Center Seminar Series <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>		2 hrs	Tue 28.09.	12-14 18-20	HG D3.2 HG F5	B. J. Bergmann, D. Basin, A. Bommier, D. N. Bresch, L.-E. Cederman, P. Cheridito, F. Cormann, O. Fink, H. Gersbach, C. Hölscher, K. Paterson, H. Schernberg, F. Schweitzer, D. Sornette, B. Stojadinovic, B. Sudret, J. Teichmann, U. A. Weidmann, S. Wiemer, M. Zeilinger, R. Zenklusen
364-1015-00L	<b>KOF-ETH-UZH International Economic Policy Seminar (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: DOEC0584</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>						
364-1015-00 S	KOF-ETH-UZH International Economic Policy Seminar (University of Zurich) <i>**together with University of Zurich**</i>		2 hrs	Thu	12-14	LEE E101	P. Egger, J.-E. Sturm, University lecturers
364-0513-00L	<b>Empirical Methods in Energy and Environmental Economics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
364-0513-00 V	Empirical Methods in Energy and Environmental Economics <i>Does not take place this semester. The lecture takes place in spring semester 2022.</i>		24s hrs				M. Filippini, to be announced
	<i>Block course</i>						
364-1062-00L	<b>Experimental Methods</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>			
364-1062-00 V	Experimental Methods <i>Does not take place this semester. Block course</i>		12s hrs				C. Waibel
363-1136-00L	<b>Dynamic Macroeconomics, Innovation and Growth</b> <i>Students who have successfully completed the course "Dynamic Macroeconomics" (364-0559-00L) or "Economics of Innovation and Growth" (363-0562-01L) can not register for this course.</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
363-1136-00 V	Dynamic Macroeconomics, Innovation and Growth <i>Please note: This lecture was merged from 364-0559-00L Dynamic Macroeconomics and 363-0562-01L Economics of Innovation and Growth. Contact person: Julia Dür, jduer@ethz.ch</i>		2 hrs	Tue	10-12	ZUE G1	H. Gersbach

#### ► Additional Courses

Number	Title	Type	ECTS	Hours	Lecturers
364-1064-00L	<b>Inaugural Seminar - Doctoral Retreat</b> <i>Pre-registration upon invitation required. Once your pre-registration has been confirmed, a registration in myStudies is</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>	

possible.

364-1064-00 S Inaugural Seminar - Doctoral Retreat  
*Does not take place this semester.*  
*Block course*

15s hrs

**P. Schmid**, S. Brusoni,  
R. Finger, G. Grote, T. Netland,  
F. von Wangenheim, to be  
announced

Course Catalogue of ETH Zurich

#### Doctoral Department of Management, Technology, and Economics - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Doctoral Department of Mechanical and Process Engineering

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

Number	Title	Type	ECTS	Hours				Lecturers
Course Catalogue of ETH Zurich								
151-0107-20L	High Performance Computing for Science and Engineering (HPCSE) I	W	4 credits	4G				
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I Lecture: 12-14h Exercises: 14-16h			4 hrs	Fri	12-14 14-16	ML H44 ML H44	P. Koumoutsakos, S. M. Martin
151-0111-00L	Research Seminar in Fluid Dynamics Internal research seminar for graduate students and scientific staffs of the IFD	E-	0 credits	2S				
151-0111-00 S	Research Seminar in Fluid Dynamics ■			2 hrs	Tue	08-10	ML H41.1	F. Coletti, P. Jenny, T. Rösgen, O. Supponen
151-0123-00L	Experimental Methods for Engineers	W	4 credits	2V+2U				
151-0123-00 V	Experimental Methods for Engineers Lecture starts in the first week.			2 hrs	Thu	14-16	ML F39	T. Rösgen, B. Schuermans, M. Tibbitt
151-0123-00 U	Experimental Methods for Engineers Exercises start in the first week.			2 hrs	Thu	08-10	ML F39	T. Rösgen, B. Schuermans, M. Tibbitt
151-0529-00L	Computational Mechanics II: Nonlinear FEA	W	4 credits	2V+2U				
151-0529-00 V	Computational Mechanics II: Nonlinear FEA			2 hrs	Tue 28.09. 26.10.	10-12 10-12 10-12	LEE E101 ETZ E8 n/a	L. De Lorenzis
151-0529-00 U	Computational Mechanics II: Nonlinear FEA			2 hrs	Tue	14-16	LEE E101	L. De Lorenzis
151-0563-01L	Dynamic Programming and Optimal Control	W	4 credits	2V+1U				
151-0563-01 V	Dynamic Programming and Optimal Control The lecture will start in the 2nd week of Semester. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.			2 hrs	Wed	14-16	HG F1	R. D'Andrea
151-0563-01 U	Dynamic Programming and Optimal Control The exercise will start in the 2nd week of Semester.			1 hrs	Wed  29.09.	16-17  16-17	CAB G51 HG F1 ML E12	R. D'Andrea
151-0593-00L	Embedded Control Systems	W	4 credits	6G				
151-0593-00 G	Embedded Control Systems This two-week block course take places daily (13-17.09.2021 & 20-24.09.2021) and is comprised of - Lectures: 8-12 h - Exercises: 13-17 h			80s hrs	13.09. 13.09.- 17.09. 13.09.- 24.09. 20.09. 21.09. 22.09. 23.09. 24.09.	08-10 08-12 13-17 08-12 08-12 13-17 08-12 08-12 08-12 08-12	ML H44 HG G26.5 ML J44.1 HG F26.3 ML J44.1 HG F26.3 HG F26.3 ML F39 HG F26.3 LEE E101	J. S. Freudenberg, M. Schmid Daners
151-0623-00L	ETH Zurich Distinguished Seminar in Robotics, Systems and Controls	W	1 credit	1S				
151-0623-00 S	ETH Zurich Distinguished Seminar in Robotics, Systems and Controls The seminar is organized by all IRIS professors (http://www.iris.ethz.ch/the-institute.html).			1 hrs	Fri/2w	16-18	HG G5	B. Nelson, M. Chli, M. Hutter, R. Katzschmann, R. Riener, R. Siegwart
151-1053-00L	Thermo- and Fluid Dynamics	E-	0 credits	2K				
151-1053-00 K	Thermo- and Fluid Dynamics			2 hrs	Wed	16-18	ML H44	P. Jenny, R. S. Abhari, G. Haller, C. Müller, N. Noiray, T. Rösgen, A. Steinfeld
151-8101-00L	International Engineering: from Hubris to Hope	W	4 credits	3G				
151-8101-00 G	International Engineering: from Hubris to Hope			3 hrs	Thu	15-18	LEE D105	E. Tilley, M. Kalina
151-9901-00L	Scientific Writing for Publication in Engineering Only for D-MAVT doctoral students.  Number of participants limited to 15 per group.	W	2 credits	1G				
151-9901-00 G	Scientific Writing for Publication in Engineering ■ **Course is offered in collaboration with Language Center of UZH and ETH Zurich**			20s hrs	Thu/2w	08-11	ML H34.3	S. Milligan
151-9902-00L	Workshop on Intellectual Property Rights	W	1 credit	2S				

Number of participants is limited to 20, in case of over-booking, 2nd year doctoral students from different research groups will have priority, registration by email to melanie.johnson@sl.ethz.ch, please, state the name of your supervising professor and the year of your PhD studies (first, second, third... ).

151-9902-00 S	Workshop on Intellectual Property Rights ■ Does not take place this semester. This is a hybrid workshop, partly on Zoom, partly in class: October 1 (Zoom), October 7 (ETH), October 8 (ETH), October 22 (Zoom).		24s hrs						
<b>351-0778-00L</b>	<b>Discovering Management</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
	Entry level course in management for BSc, MSc and PhD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercises) 351-0778-01.								
351-0778-00 G	Discovering Management Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.		3 hrs	Fri	08-11	HG E1.1		<b>B. Clarysse</b> , S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe	
<b>363-0341-00L</b>	<b>Introduction to Management</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0341-00 G	Introduction to Management The lecture takes place in classroom, online via livestreaming or zoom and recorded.		2 hrs	Thu	16-18	HG F7		<b>Z. Zagorac-Uremovic</b> , J. O'Neil	
<b>363-0389-00L</b>	<b>Technology and Innovation Management</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0389-00 G	Technology and Innovation Management The lecture takes place in classroom, online via zoom and recorded.		2 hrs	Mon 27.09.	14-16 14-16	NO C60 HG D1.2		<b>S. Brusoni</b> , A. Zeijen	
<b>363-0403-00L</b>	<b>Introduction to Marketing</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0403-00 G	Introduction to Marketing The lecture takes place in classroom, online via livestreaming or zoom and recorded.		2 hrs	Tue	14-16	HG E5		<b>S. Brüggemann</b> , F. von Wangenheim	
<b>363-0503-00L</b>	<b>Principles of Microeconomics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	GESS (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L Einführung in die Mikroökonomie.								
363-0503-00 G	Principles of Microeconomics The lecture takes place in classroom, online via livestreaming or zoom and recorded.		2 hrs	Thu	18-20	HG F7		<b>M. Filippini</b>	
<b>363-0511-00L</b>	<b>Managerial Economics</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
	Not for MSc students belonging to D-MTEC!								
363-0511-00 V	Managerial Economics		3 hrs	Tue Wed	18-19 08-10	HG F5 HG G3		<b>V. Lohmann</b> , P. Egger, M. Köthenbürger	
<b>363-0565-00L</b>	<b>Principles of Macroeconomics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
363-0565-00 V	Principles of Macroeconomics Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.		2 hrs	Tue	16-18	ETA F5 ETF E1		<b>J.-E. Sturm</b>	
<b>363-0711-00L</b>	<b>Accounting for Managers</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
363-0711-00 V	Accounting for Managers The lecture takes place in classroom, online via livestreaming and recorded.		2 hrs	Thu	10-12	HG F3		<b>J.-P. Chardonens</b>	
<b>363-0790-00L</b>	<b>Technology Entrepreneurship</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
363-0790-00 V	Technology Entrepreneurship The lecture takes place online via (livestreaming or) zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.		2 hrs	Tue	18-20	HG E5		<b>F. Hacklin</b>	
<b>363-1021-00L</b>	<b>Monetary Policy</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
363-1021-00 V	Monetary Policy		2 hrs	Mon	14-16	LEE E101		<b>J.-E. Sturm</b> , A. Rathke	
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0625-01 V	Applied Analysis of Variance and Experimental Design		2 hrs	Mon	14-16	HG G5		<b>L. Meier</b>	
401-0625-01 U	Applied Analysis of Variance and Experimental Design		1 hrs	Mon/2w	16-18	HG E1.1		<b>L. Meier</b>	
<b>535-0546-00L</b>	<b>Patents</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					
535-0546-00 V	Patents		1 hrs	Wed/1	10-12	HCI H8.1		<b>A. Koepf</b> , P. Pliska	
<b>636-0507-00L</b>	<b>Synthetic Biology II</b>	<b>W</b>	<b>8 credits</b>	<b>4A</b>					
	Students in the MSc Biotechnology (Programme Regulations 2017) may select Synthetic Biology II instead of the Research Project 1.								

636-0507-00 A	Synthetic Biology II <i>Does not take place this semester. Permission from lecturers required for all students This course will (hopefully!) be offered again in Autumn Semester 2022!</i>	4 hrs	by appt.	<b>S. Panke, Y. Benenson, J. Stelling</b>
---------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	----------	-----------------------------------------------

<b>851-0180-00L</b>	<b>Research Ethics</b> <i>Number of participants limited to 40</i>  <i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1	<b>G. Achermann, P. Emch</b>

#### Doctoral Department of Mechanical and Process Engineering - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Doctoral Department of Materials Science

Further information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

Number	Title	Type	ECTS	Hours				Lecturers	
Course Catalogue of ETH Zurich									
327-0710-00L	<b>Polymer Physics</b>	E-	0 credits	2S					H. C. Öttinger, M. Kröger
327-0710-00 S	Polymer Physics Permission from lecturers required for all students Ort und genaue Termine nach Ankündigung			2 hrs	Wed	10-12			
327-0711-00L	<b>Metal Physics and Technology Seminar</b>	E-	0 credits	2S					J. F. Löffler
327-0711-00 S	Metal Physics and Technology Seminar Ort und genaue Termine nach Ankündigung			2 hrs	Mon	16-18			
327-0712-00L	<b>Nanometallurgy</b>	E-	0 credits	2S					R. Spolenak
327-0712-00 S	Nanometallurgie			2 hrs	Mon	13-15	HCI E530		
327-1300-00L	<b>Joint Group Seminar</b>	E-	0 credits	1S					M. Fiebig, N. Spaldin
	Only for D-MATL doctoral students								
327-1300-00 S	Joint Group Seminar Permission from lecturers required for all students Unregelmässige Lehrveranstaltung.			1 hrs					
327-6100-00L	<b>Materials Colloquium</b>	E-	0 credits						M. Fiebig, I. Herrmann, M. Luisier, L. Novotny, further lecturers
327-6100-00 K	Materials Colloquium Wednesday, 4:30 pm see separate programme			4s hrs					
327-0721-00L	<b>Writing for Publication in Materials Science</b>	W	2 credits	1G					R. Mihalka
	Number of participants limited to 15.								
	Only for D-MATL doctoral students.								
327-0721-00 G	Writing for Publication in Materials Science **Course is offered in collaboration with Language Center of UZH and ETH Zurich**			20s hrs					
	Course days: January 13, 20, 27 and February 10, 24, 2022. Time: 09:45-13:30 Place: Campus Hönggerberg (room will follow soon)								
327-2125-00L	<b>Microscopy Training SEM I - Introduction to SEM</b>	W	2 credits	3P					P. Zeng, A. G. Bittermann, S. Gerstl, L. Grafulha Morales, K. Kunze, J. Reuteler
	The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.								
	For PhD students, postdocs and others, a fee will be charged (http://www.scopem.ethz.ch/education/MTP.html).								
	All applicants must additionally register on this form: (link will follow) The selected applicants will be contacted and asked for confirmation a few weeks before the course date.								
327-2125-00 P	Microscopy Training SEM I - Introduction to SEM ■ This block course will take place during 5 full days (9am-5pm) on October 25.-29., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.			35s hrs	25.10.	09-12	HIT F11.1		
					26.10.	09-12	HIT F11.1		
					27.10.	09-12	HIT F11.1		
					29.10.	13-16	HIT F11.1		
	The repetition (if needed) of this course will take place on Jan 24.-28., 2022.								
327-2126-00L	<b>Microscopy Training TEM I - Introduction to TEM</b>	W	2 credits	3P					
	The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.								
	For PhD students, postdocs and others, a fee will be charged (http://www.scopem.ethz.ch/education/MTP.html).								
	All applicants must additionally register on this form: (link will follow) The selected applicants will be contacted and asked for confirmation a few weeks before the course date.								

327-2126-00 P	Microscopy Training TEM I - Introduction to TEM	35s hrs	01.11.	09-12	HIT F11.1	<b>P. Zeng,</b> E. J. Barthazy Meier,
	<i>This block course will take place during 5 full days (9am-5pm) on November 1.-5., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.</i>		02.11.	09-12	HIT F11.1	A. G. Bittermann, F. Gramm,
			03.11.	09-12	HIT F11.1	A. Sologubenko, M. Willinger
			05.11.	13-16	HIT F11.1	

*The repetition (if needed) of this course will take place from 29.11.-03.12.2021.*

#### Doctoral Department of Materials Science - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.



# Doctoral Department of Mathematics

More Information at: <https://www.ethz.ch/en/doctorate.html>

The list of courses (together with the allocated credit points) eligible for doctoral students is published each semester in the newsletter of the ZGSM.  
[www.zgsm.ch/index.php?id=260&type=2](http://www.zgsm.ch/index.php?id=260&type=2)  
 WARNING: Do not mistake ECTS credits for credit points for doctoral studies!

## ► Graduate School

Official website of the Zurich Graduate School in Mathematics:  
[www.zurich-graduate-school-math.ch](http://www.zurich-graduate-school-math.ch)

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-5003-71L</b>	<b>At the Interface Between Semiclassical Analysis and Numerical Analysis of Wave-Scattering Problems</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-5003-71 V	At the Interface Between Semiclassical Analysis and Numerical Analysis of Wave-Scattering Problems Fridays, 10:15 - 12:00 First lecture: 1 October More information and registration (registration deadline: 27 September) <a href="https://math.ethz.ch/fim/activities/nachdiplom-lectures/euan-spence.html">https://math.ethz.ch/fim/activities/nachdiplom-lectures/euan-spence.html</a>			2 hrs	Fri	10-12	HG G43		<b>E. Spence</b>
<b>401-5005-71L</b>	<b>Randomization and Dimensionality in Risk Modeling</b>	<b>W</b>	<b>0 credits</b>	<b>2V</b>					
401-5005-71 V	Randomization and Dimensionality in Risk Modeling Tuesdays, 10:15 - 12:00 First lecture: 28 September More information and registration (registration deadline: 23 September) <a href="https://math.ethz.ch/fim/activities/nachdiplom-lectures/hansjoerg-albrecher.html">https://math.ethz.ch/fim/activities/nachdiplom-lectures/hansjoerg-albrecher.html</a>			2 hrs	Tue	10-12	HG G43		<b>H. Albrecher</b>
<b>401-3225-00L</b>	<b>Introduction to Lie Groups</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-3225-00 G	Introduction to Lie Groups Groups are selected in myStudies.			4 hrs	Wed Thu	08-10 10-12	ML E12 LFO C13		<b>A. Iozzi</b>
<b>401-3001-61L</b>	<b>Algebraic Topology I</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-3001-61 G	Algebraic Topology I			4 hrs	Wed Fri	10-12 14-16	HG E1.1 HG E1.1		<b>W. Merry</b>
<b>401-4421-71L</b>	<b>Harmonic Analysis</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-4421-71 V	Harmonic Analysis			2 hrs	Thu	10-12	HG D1.2		<b>A. Figalli</b>
<b>401-3059-00L</b>	<b>Combinatorics II</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
401-3059-00 G	Kombinatorik II			2 hrs	Wed	18-20	HG D3.2		<b>N. Hungerbühler</b>
<b>401-4475-71L</b>	<b>Microlocal Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
401-4475-71 G	Microlocal Analysis Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.			3 hrs	Tue Thu	10-12 08-09	LFW E13 HG E7		<b>P. Hintz</b>
<b>401-4657-00L</b>	<b>Numerical Analysis of Stochastic Ordinary Differential Equations</b> Alternative course title: "Computational Methods for Quantitative Finance: Monte Carlo and Sampling Methods"	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
401-4657-00 V	Numerical Analysis of Stochastic ODEs (Comp. Meth. Quant. Fin.: Monte Carlo and Sampling Methods)			3 hrs	Mon Wed	16-18 14-15	HG D1.2 HG D5.2		<b>A. Stein</b>
401-4657-00 U	Numerical Analysis of Stochastic ODEs (Comp. Meth. Quant. Fin.: Monte Carlo and Sampling Methods) Groups are selected in myStudies.			1 hrs	Wed	15-16	HG D5.2 LFW C1		<b>A. Stein</b>
<b>401-4785-00L</b>	<b>Mathematical and Computational Methods in Photonics</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-4785-00 G	Mathematical and Computational Methods in Photonics			4 hrs	Mon Wed	10-12 10-12	HG G26.5 HG G26.5		<b>H. Ammari</b>
<b>401-4607-67L</b>	<b>Schramm-Loewner Evolutions</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-4607-67 V	Schramm-Loewner Evolutions			2 hrs	Wed 03.11.	08-10 08-10	HG G19.1 HG G19.2		<b>W. Werner</b>
<b>401-4944-20L</b>	<b>Mathematics of Data Science</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-4944-20 G	Mathematics of Data Science			4 hrs	Thu Fri	12-14 10-12	HG G3 HG G5		<b>A. Bandeira</b>
<b>401-3621-00L</b>	<b>Fundamentals of Mathematical Statistics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>					
401-3621-00 V	Fundamentals of Mathematical Statistics			4 hrs	Tue Wed	08-10 10-12	HG E5 HG E7		<b>S. van de Geer</b>
401-3621-00 U	Fundamentals of Mathematical Statistics			1 hrs	Tue	12-13	HG D7.1 HG E7		<b>S. van de Geer</b>
<b>401-3622-00L</b>	<b>Statistical Modelling</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-3622-00 G	Statistical Modelling			4 hrs	Mon Thu	10-12 14-16	ML D28 HG E1.1		<b>C. Heinze-Deml</b>
<b>401-4623-00L</b>	<b>Time Series Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					

401-4623-00 G	Time Series Analysis <i>Does not take place this semester.</i>			3 hrs					<b>F. Balabdaoui</b>
<b>401-3627-00L</b>	<b>High-Dimensional Statistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3627-00 V	High-Dimensional Statistics			2 hrs	Thu	08-10	CAB G61		<b>P. L. Bühlmann</b>
<b>401-3612-00L</b>	<b>Stochastic Simulation</b>	<b>W</b>	<b>5 credits</b>	<b>3G</b>					
401-3612-00 G	Stochastic Simulation <i>Does not take place this semester.</i>			3 hrs					
<b>401-3628-14L</b>	<b>Bayesian Statistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3628-14 V	Bayesian Statistics			2 hrs	Tue	16-18	HG G3		<b>F. Sigrist</b>
<b>401-4889-00L</b>	<b>Mathematical Finance</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>					
401-4889-00 V	Mathematical Finance			4 hrs	Tue Thu	08-10 08-10	HG E1.1 ML F36		<b>D. Possamaï</b>
401-4889-00 U	Mathematical Finance			2 hrs	Fri	10-12	ML F38		<b>D. Possamaï</b>
<b>402-0861-00L</b>	<b>Statistical Physics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>					
402-0861-00 V	Statistical Physics			4 hrs	Tue Wed	14-16 14-16	HPV G5 HPV G5		<b>M. Sigrist</b>
402-0861-00 U	Statistical Physics			2 hrs	Tue  Wed  Fri	16-18  12-14  16-18	HCI J4 HIT J53 HIT H42 HIT J51 HIT J52 HIT K51 HIT K51		<b>M. Sigrist</b>

### ► Seminars

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-4570-71L</b>	<b>Student Seminar in Symplectic vs. Contact Geometry</b> <i>Number of participants limited to 12.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>					
401-4570-71 S	Student Seminar in Symplectic vs. Contact Geometry			2 hrs	Wed	14-16	HG G19.2		<b>A. Cannas da Silva</b>
<b>401-4600-71L</b>	<b>Student Seminar in Probability</b> <i>Limited number of participants. Registration to the seminar will only be effective once confirmed by email from the organisers.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>					
	<i>This Student Seminar in Probability will be at an advanced level (dealing with current research topics), and the participants will be at a doctoral level or postdocs. Of course, non-participants are welcome to attend the various talks of the seminar.</i>								
401-4600-00 S	Student Seminar in Probability **together with University of Zurich** <i>For doctoral students and postdocs.</i>			2 hrs	Thu	16-18	CHN E46		J. Bertoin, V. Tassion, W. Werner

### ► Colloquia

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-5000-00L</b>	<b>Zurich Colloquium in Mathematics</b>	<b>E-</b>	<b>0 credits</b>						
401-5000-00 K	Zurich Colloquium in Mathematics **together with University of Zurich** <i>More information at:</i> <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#/details/2021/003/SM/50027684">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#/details/2021/003/SM/50027684</a>  <i>Place: Zoom</i> <i>Time: 16:30-17:30</i> <a href="https://math.ethz.ch/news-and-events/events/research-seminars/zurich-colloquium-in-mathematics.html?s=hs21">https://math.ethz.ch/news-and-events/events/research-seminars/zurich-colloquium-in-mathematics.html?s=hs21</a>			4s hrs	Tue	16-17	UNI ZH.		<b>R. Abgrall, M. Iacobelli,</b> A. Bandeira, A. Iozzi, S. Mishra, R. Pandharipande, University lecturers
<b>401-5990-00L</b>	<b>Zurich Graduate Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5990-00 K	Zurich Graduate Colloquium **together with University of Zurich** <i>More information at:</i> <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=EN&amp;sap-ui-language=EN#/details/2021/003/SM/50048478">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=EN&amp;sap-ui-language=EN#/details/2021/003/SM/50048478</a>  <i>Time: 16:15-18:00</i>			1 hrs	Tue	16-18	UNI ZH.		<b>A. Iozzi</b> , further speakers
<b>401-4530-00L</b>	<b>Geometry Graduate Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>					
401-4530-00 K	Geometry Graduate Colloquium <a href="https://math.ethz.ch/news-and-events/events/research-seminars/geometry-graduate-colloquium.html">https://math.ethz.ch/news-and-events/events/research-seminars/geometry-graduate-colloquium.html</a>			1 hrs	Thu	16-17	HG G19.2		Speakers
<b>401-5110-00L</b>	<b>Number Theory Seminar</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>					

401-5110-00 K	Number Theory Seminar			1 hrs	Fri	14-15	HG G43	Ö. Imamoglu, E. Kowalski, R. Pink, G. Wüstholtz
<b>401-5140-11L</b>	<b>Algebraic Geometry and Moduli Seminar E-</b>	<b>0 credits</b>	<b>2K</b>					
401-5140-11 K	Algebraic Geometry and Moduli Seminar Time: usually Wed 13:30-14:45 and Fri 16:00-17:15 <a href="https://www.math.ethz.ch/news-and-events/events/research-seminars/algebraic-geometry-and-moduli-seminar.html">https://www.math.ethz.ch/news-and-events/events/research-seminars/algebraic-geometry-and-moduli-seminar.html</a>		2 hrs	Wed Fri		13-15 16-17	HG G43 HG G43	R. Pandharipande
<b>401-5530-00L</b>	<b>Geometry Seminar E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5530-00 K	Geometry Seminar **together with University of Zurich** 15:45-16:45		1 hrs	Wed		16-17	HG G43	M. Burger, M. Einsiedler, P. Feller, A. Iozzi, U. Lang, University lecturers
<b>401-5350-00L</b>	<b>Analysis Seminar E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5350-00 K	Analysis Seminar **together with University of Zurich**		1 hrs	Tue		15-16	HG G43	A. Carlotto, F. Da Lio, A. Figalli, N. Hungerbühler, M. Iacobelli, T. Ilmanen, L. Keller, T. Riviere, J. Serra, University lecturers
<b>401-5370-00L</b>	<b>Ergodic Theory and Dynamical Systems E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5370-00 K	Ergodic Theory and Dynamical Systems **together with University of Zurich** <a href="https://www.math.ethz.ch/news-and-events/events/research-seminars/ergodic-theory-and-dynamical-systems.html">https://www.math.ethz.ch/news-and-events/events/research-seminars/ergodic-theory-and-dynamical-systems.html</a>		1 hrs	Mon		15-16	I27 H28	M. Akka Ginossar, M. Einsiedler, University lecturers
<b>401-5580-00L</b>	<b>Symplectic Geometry Seminar E-</b>	<b>0 credits</b>	<b>2K</b>					
401-5580-00 K	Symplectic Geometry Seminar		2 hrs	Mon		16-18	HG G43	P. Biran, A. Cannas da Silva
<b>401-5650-00L</b>	<b>Zurich Colloquium in Applied and Computational Mathematics E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5650-00 K	Zurich Colloquium in Applied and Computational Mathematics **together with University of Zurich** More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html#/details/2021/003/SM/50027666">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html#/details/2021/003/SM/50027666</a>		1 hrs	Wed		16-17	HG E1.2	R. Abgrall, R. Alaifari, H. Ammari, R. Hiptmair, S. Mishra, S. Sauter
<b>401-5330-00L</b>	<b>Talks in Mathematical Physics E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5330-00 K	Talks in Mathematical Physics **together with University of Zurich**		1 hrs	Thu		15-17	HG G43	P. E. Y. Bousseau, A. Cattaneo, G. Felder, M. Gaberdiel, G. M. Graf, T. H. Willwacher
<b>401-5600-00L</b>	<b>Seminar on Stochastic Processes E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5600-00 K	Seminar on Stochastic Processes **together with University of Zurich**		1 hrs	Wed		17-18	HG G19.1	J. Bertoin, A. Nikeghbali, B. D. Schlein, V. Tassion, W. Werner
<b>401-5620-00L</b>	<b>Research Seminar on Statistics E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5620-00 K	Research Seminar on Statistics **together with University of Zurich**  Starting time may vary (depending on whether the ZüKoSt also takes place). For details see <a href="https://www.math.ethz.ch/news-and-events/events/research-seminars/statistics-research-seminar.html">https://www.math.ethz.ch/news-and-events/events/research-seminars/statistics-research-seminar.html</a>		1 hrs	Fri		15-17	HG G19.1	P. L. Bühlmann, M. H. Maathuis, N. Meinshausen, S. van de Geer, A. Bandeira, R. Furrer, L. Held, T. Hothorn, D. Kozbur, M. Wolf
<b>401-5680-00L</b>	<b>Foundations of Data Science Seminar E-</b>	<b>0 credits</b>						
401-5680-00 K	Foundations of Data Science Seminar <a href="https://www.math.ethz.ch/sfs/news-and-events/data-science-seminar.html">https://www.math.ethz.ch/sfs/news-and-events/data-science-seminar.html</a> Time: 16:15-17:15		3s hrs	23.09. 11.11. 02.12.		16-18 16-18 16-18	HG F3 HG G19.2 HG G19.1	P. L. Bühlmann, A. Bandeira, H. Bölcskei, F. Yang
<b>401-5660-00L</b>	<b>Math and Data (MAD+) E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5660-00 K	Math and Data (MAD+) <a href="https://math.ethz.ch/news-and-events/events/research-seminars/math-and-data.html">https://math.ethz.ch/news-and-events/events/research-seminars/math-and-data.html</a>		1 hrs					A. Bandeira, external organisers
<b>401-5910-00L</b>	<b>Talks in Financial and Insurance Mathematics E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5910-00 K	Talks in Financial and Insurance Mathematics by announcement		1 hrs	Thu		17-18	HG G43	P. Cheridito, M. Schweizer, J. Teichmann, M. V. Wüthrich
<b>401-5900-00L</b>	<b>Optimization Seminar E-</b>	<b>0 credits</b>	<b>1K</b>					
401-5900-00 K	Optimization Seminar Mon 16:30-17:30 (dates by announcement)		1 hrs	Mon		16-17	HG G19.1	A. Bandeira, R. Weismantel, R. Zenklusen
<b>252-4202-00L</b>	<b>Seminar in Theoretical Computer Science E-</b>	<b>2 credits</b>	<b>2S</b>					
252-4202-00 S	Seminar in Theoretical Computer Science ■		2 hrs	Tue Thu		12-13 12-13	CAB G51 CAB G51	E. Welzl, B. Gärtner, M. Ghaffari, M. Hoffmann, J. Lengler, A. Steger, D. Steurer, B. Sudakov

**Doctoral Department of Mathematics - Key for Type**

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Doctoral Department of Physics

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Doctoral and Post-Doctoral Courses

Please note that this is an INCOMPLETE list of courses.

Number	Title	Type	ECTS	Hours				Lecturers
402-0317-00L	Semiconductor Materials: Fundamentals and Fabrication	W	6 credits	2V+1U				
402-0317-00 V	Semiconductor Materials: Fundamentals and Fabrication			2 hrs	Tue	14-16	HCI D2	S. Schön, W. Wegscheider
402-0317-00 U	Semiconductor Materials: Fundamentals and Fabrication			1 hrs	Tue	16-17	HCI D2	S. Schön, W. Wegscheider
402-0526-00L	Ultrafast Processes in Solids	W	6 credits	2V+1U				
402-0526-00 V	Ultrafast Processes in Solids			2 hrs	Fri	10-12	HIT H51	Y. M. Acremann
402-0526-00 U	Ultrafast Processes in Solids			1 hrs	Fri	12-13	HIT H51	Y. M. Acremann
402-0464-00L	Optical Properties of Semiconductors	W	8 credits	2V+2U				
402-0464-00 V	Optical Properties of Semiconductors			2 hrs	Mon	12-14	HIT J53	J. Faist, P. Anantha Murthy
402-0464-00 U	Optical Properties of Semiconductors			2 hrs	Mon	14-16	HIT F31.2	J. Faist, P. Anantha Murthy
402-0484-00L	Experimental and Theoretical Aspects of Quantum Gases	W	6 credits	2V+1U				
402-0484-00 V	Experimental and Theoretical Aspects of Quantum Gases <i>Does not take place this semester.</i>			2 hrs				T. Esslinger
402-0484-00 U	Experimental and Theoretical Aspects of Quantum Gases <i>Does not take place this semester.</i>			1 hrs				T. Esslinger
402-0535-00L	Introduction to Magnetism	W	6 credits	3G				
402-0535-00 G	Introduction to Magnetism			3 hrs	Mon	16-19	HIL E6	A. Vindigni
402-0595-00L	Semiconductor Nanostructures	W	6 credits	2V+1U				
402-0595-00 V	Semiconductor Nanostructures			2 hrs	Wed	12-14	HCI J4	T. M. Ihn
402-0595-00 U	Semiconductor Nanostructures <i>or by appointment</i>			1 hrs	Wed	14-15	HIT J51 HIT K52	T. M. Ihn
402-0715-00L	Low Energy Particle Physics	W	6 credits	2V+1U				
402-0715-00 V	Low Energy Particle Physics <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	09-11	HIT F31.1	A. Soter, P. A. Schmidt-Wellenburg
402-0715-00 U	Low Energy Particle Physics <i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>			1 hrs	Mon	11-12	HIT F31.1	A. Soter, P. A. Schmidt-Wellenburg
402-0767-00L	Neutrino Physics	W	6 credits	2V+1U				
402-0767-00 V	Neutrino Physics			2 hrs	Tue	14-16	HIL C10.2	A. Rubbia, D. Sgalaberna
402-0767-00 U	Neutrino Physics			1 hrs	Tue	16-17	HIT F31.1	A. Rubbia, D. Sgalaberna
376-1791-00L	Introductory Course in Neuroscience I (University of Zurich) <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: SPV0Y005</i>	W	2 credits	2V				
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>							
376-1791-00 V	Introductory Course in Neuroscience I (University of Zurich) <b>**together with University of Zurich**</b>			2 hrs	Mon	16-18	UNI ZH.	University lecturers
	<i>Kurs des Zentrums für Neurowissenschaften Zürich (ZNZ)</i>							
	<i>Beginn 20.09.2021</i>							
402-0620-00L	Current Topics in Accelerator Mass Spectrometry and Its Applications	E-	0 credits	1S				
402-0620-00 S	Current Topics in Accelerator Mass Spectrometry and Its Applications			1 hrs	Wed	12-13	HPK D24.2	M. Christl, S. Willett
402-0897-00L	Introduction to String Theory	W	6 credits	2V+1U				
402-0897-00 V	Introduction to String Theory			2 hrs	Tue	10-12	HPV G5	J. Brödel
402-0897-00 U	Introduction to String Theory			1 hrs	Wed	10-11	HCI J4 HPL D32	J. Brödel
402-0393-00L	Theoretical Cosmology and Different Aspects of Gravity	W	8 credits	4V				
402-0393-00 V	Theoretical Cosmology and Different Aspects of Gravity <i>Does not take place this semester.</i>			4 hrs				L. Heisenberg
402-0465-58L	Intersubband Optoelectronics	W	6 credits	2V+1U				
402-0465-58 V	Intersubband Optoelectronics <i>Does not take place this semester.</i>			2 hrs				G. Scalari
402-0465-58 U	Intersubband Optoelectronics <i>Does not take place this semester.</i>			1 hrs				G. Scalari

<b>Theories</b> <i>Special Students UZH must book the module PHY577 directly at UZH.</i>								
402-0845-80 V	Scattering Amplitudes in Quantum Field Theories <i>Does not take place this semester.</i> <i>**together with University of Zurich**</i>		2 hrs					University lecturers
402-0845-80 U	Scattering Amplitudes in Quantum Field Theories <i>Does not take place this semester.</i> <i>**together with University of Zurich**</i>		1 hrs					University lecturers
<b>402-0845-61L</b>	<b>Effective Field Theories for Particle Physics</b> <i>Special Students UZH must book the module PHY578 directly at UZH.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0845-61 V	Effective Field Theories for Particle Physics <i>**together with University of Zurich**</i>		2 hrs	Tue	14-16	HCI H8.1		<b>P. Stoffer</b>
<i>More information at:</i> <a href="https://www.physik.uzh.ch/en/teaching/PHY578.html">https://www.physik.uzh.ch/en/teaching/PHY578.html</a>								
402-0845-61 U	Effective Field Theories for Particle Physics <i>**together with University of Zurich**</i>		1 hrs	Tue	16-17	HCI H8.1 HIT K52		<b>P. Stoffer</b>
<i>More information at:</i> <a href="https://www.physik.uzh.ch/en/teaching/PHY578.html">https://www.physik.uzh.ch/en/teaching/PHY578.html</a>								
<b>402-0010-00L</b>	<b>Basics of Computing Environments for Scientists</b> <i>Enrollment is only possible under</i> <a href="https://www.lehrbetrieb.ethz.ch/laborpraktika">https://www.lehrbetrieb.ethz.ch/laborpraktika</a> <i>a</i> <i>No registration required via myStudies.</i>	<b>Z</b>	<b>0 credits</b>					
<i>Introduction:</i> - IT at D-PHYS (Herzog): 29.9. 1300 - IT at D-PHYS 2. Termin (Herzog): 7.10. 1300  <i>Modules:</i> - Linux Basics I (Müller): 13.10. 1300 - Linux Basics II (Müller): 20.10. 1300 - Python Ecosystem I (Becker): 27.10. 1300 - Python Ecosystem II (Becker): 3.11. 1300 - System Aspects (Herzog): 10.11. 1300								
402-0010-00 V	Basics of Computing Environments for Scientists		2s hrs	29.09. 07.10.	13-14 13-14	HPV G4 HPV G4		
<b>402-0442-00L</b>	<b>Quantum Optics</b>	<b>Dr</b>	<b>10 credits</b>	<b>3V+2U</b>				
402-0442-00 V	Quantum Optics		3 hrs	Wed Fri	10-12 09-10	HPV G5 HPV G5		<b>T. Esslinger</b>
402-0442-00 U	Quantum Optics		2 hrs	Tue	10-12	HIT F32 HIT H51 HIT J51 HCI D6 HCI D8 HCI F2 HIT H42		<b>T. Esslinger</b>
				Thu	16-18			

#### Doctoral Department of Physics - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Doctoral Department of Environmental Sciences

More Information at: <https://www.ethz.ch/en/doctorate.html>

## ► Agricultural Sciences

### ►► Graduate Programme in Plant Sciences

Number	Title	Type	ECTS	Hours					Lecturers
<b>751-4003-01L</b>	<b>Current Topics in Grassland Sciences (HS)</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
751-4003-01 S	Current Topics in Grassland Sciences <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Mon	16-18	LFW C1		<b>A. K. Gilgen</b>
<b>551-0205-00L</b>	<b>Challenges in Plant Sciences</b> <i>Number of participants limited to 40.</i>	<b>W</b>	<b>2 credits</b>	<b>2K</b>					
551-0205-00 K	Challenges in Plant Sciences <i>**together with University of Zurich and University of Basel**</i>			2 hrs	29.09. 10.11.	14-18 08-18	ML F39 LEE E101		<b>S. C. Zeeman</b> , G. Dow, M. Paschke, B. Pfister, further lecturers
<i>29 September 2021, 14.15–17.45h, ML F39 10 November 2021, 08.30–17.45h, LEE E101</i>									

## ► Environmental Sciences

### ►► Atmosphere and Climate

Number	Title	Type	ECTS	Hours				Lecturers
701-1239-00L	Aerosols I: Physical and Chemical Principles	W	4 credits	2V+1U				
701-1239-00 V	Aerosols I: Physical and Chemical Principles			2 hrs	Mon	14-16	CAB G52	M. Gysel Beer, D. Bell, E. Weingartner
701-1239-00 U	Aerosols I: Physical and Chemical Principles			1 hrs	Mon	13-14	CAB G52	M. Gysel Beer, D. Bell, E. Weingartner
701-1253-00L	Analysis of Climate and Weather Data	W	3 credits	2G				
701-1253-00 G	Analysis of Climate and Weather Data <i>Does not take place this semester.</i>			2 hrs				C. Frei
701-1235-00L	Cloud Microphysics <i>Number of participants limited to 16.</i>	W	4 credits	2V+1U				
	<i>Priority is given to PhD students majoring in Atmospheric and Climate Sciences, and remaining open spaces will be offered to the following groups:</i> <i>- PhD student Environmental sciences</i> <i>- MSc in Atmospheric and climate science</i> <i>- MSc in Environmental sciences</i>							
	<i>All participants will be on the waiting list at first. Enrollment is possible until September 22nd, 2021. The waiting list is active until October 1st, 2021. All students will be informed on September 16th, if they can participate in the lecture.</i> <i>The lecture takes place if a minimum of 5 students register for it.</i>							
701-1235-00 V	Cloud Microphysics			2 hrs	Tue	10-12	CHN G22	U. Lohmann, N. Shardt
701-1235-00 U	Cloud Microphysics			1 hrs	Tue	12-13	CHN G22	U. Lohmann, N. Shardt
701-1221-00L	Dynamics of Large-Scale Atmospheric Flow	W	4 credits	2V+1U				
701-1221-00 V	Dynamics of Large-Scale Atmospheric Flow			2 hrs	Wed	09-11	CHN E42	H. Wernli, L. Papritz
701-1221-00 U	Dynamics of Large-Scale Atmospheric Flow			1 hrs	Wed	11-12	CHN E42	H. Wernli, L. Papritz
701-1251-00L	Land-Climate Dynamics <i>Number of participants limited to 36. Priority is given to the target groups:</i> <i>- Master Environmental Science,</i> <i>- Master Atmospheric and Climate Science and</i> <i>- PhD D-USYS</i> <i>until September 20th,2021.</i> <i>Waiting list will be deleted September 27th, 2021.</i>	W	3 credits	2G				
701-1251-00 G	Land-Climate Dynamics			2 hrs	Tue 05.10.	14-16 14-16	CHN E42 HG E19	S. I. Seneviratne, R. Padrón Flasher
701-1237-00L	Solar Ultraviolet Radiation	W	1 credit	1V				
701-1237-00 V	Solar Ultraviolet Radiation <i>Unregelmässige Lehrveranstaltung</i>			1 hrs	Wed/2w 10.11.	14-16 14-16	HG D3.1 HG D3.1	J. Gröbner, S. Kazantzis
701-1233-00L	Stratospheric Chemistry	W	4 credits	2V+1U				
701-1233-00 V	Stratospheric Chemistry			2 hrs	Thu	14-16	CHN F42	T. Peter, G. Chiodo
701-1233-00 U	Stratospheric Chemistry <i>Exercises start in the second week of the semester.</i>			1 hrs	Thu	13-14	CHN F42	T. Peter, G. Chiodo
701-1211-01L	Master's Seminar: Atmosphere and	W	3 credits	2S				

## Climate 1

Target groups only:

Master Environmental Science

Master Atmospheric and Climate Science

701-1211-01 S	Master's Seminar: Atmosphere and Climate ■ Permission from lecturers required for all students	2 hrs	Mon	08-10	ML F40	<b>H. Joos, R. Knutti,</b> A. Merrifield Kőnz, M. A. Wüest
<b>651-4095-01L</b>	<b>Colloquium Atmosphere and Climate 1 W 1 credit 1K</b>					
651-4095-00 K	Colloquium Atmosphere and Climate Contact person: Dr. Hanna Joos (IAC) hanna.joos@env.ethz.ch	1 hrs	Mon	16-18	CAB G11	<b>H. Joos, H. Wernli,</b> D. N. Bresch, D. Domeisen, N. Gruber, R. Knutti, U. Lohmann, T. Peter, C. Schär, S. Schemm, S. I. Seneviratne, M. Wild

## ►► Biogeochemistry and Pollutant Dynamics

Number	Title	Type	ECTS	Hours			Lecturers
<b>701-1341-00L</b>	<b>Water Resources and Drinking Water W 3 credits 2G</b>						
701-1341-00 G	Water Resources and Drinking Water Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.			2 hrs	Fri	08-10	<b>S. Hug, M. Berg, F. Hammes,</b> U. von Gunten
<b>701-1313-00L</b>	<b>Isotopes and Biomarkers in Biogeochemistry W 3 credits 2G</b>						
701-1313-00 G	Isotopes and Biomarkers in Biogeochemistry			2 hrs	Tue	14-16	<b>C. Schubert, R. Kipfer</b>
<b>701-1315-00L</b>	<b>Biogeochemistry of Trace Elements W 3 credits 2G</b>						
701-1315-00 G	Biogeochemistry of Trace Elements			2 hrs	Tue	10-12	<b>A. Voegelin, S. Bouchet,</b> L. Winkel
<b>701-1346-00L</b>	<b>Carbon Mitigation W 3 credits 2G</b> Number of participants limited to 90. Priority is given to the target groups: Bachelor and Master Environmental Sciences and PHD Environmental Sciences until September 21st, 2021. Waiting list will be deleted October 1st, 2021.						
701-1346-00 G	Carbon Mitigation			2 hrs	Mon	10-12	<b>N. Gruber</b>
<b>860-0012-00L</b>	<b>Cooperation and Conflict Over International Water Resources W 3 credits 2S</b> Number of participants limited to 40. Priority for Science, Technology, and Policy MSc.  This is a research seminar at the Master level. PhD students are also welcome.						
860-0012-00 S	Cooperation and Conflict Over International Water Resources			2 hrs	Tue	12-14	<b>B. Wehrli, T. Bernauer,</b> E. Calamita, T. U. Siegfried

## ►► Ecology and Evolution

Number	Title	Type	ECTS	Hours			Lecturers
<b>701-0263-01L</b>	<b>Seminar in Evolutionary Ecology of Infectious Diseases W 3 credits 2G</b>						
701-0263-01 G	Seminar in Evolutionary Ecology of Infectious Diseases			2 hrs	Tue	16-18	<b>R. R. Regős, S. Bonhoeffer</b>
<b>701-1453-00L</b>	<b>Ecological Assessment and Evaluation W 3 credits 3G</b>						
701-1453-00 G	Ecological Assessment and Evaluation			3 hrs	Mon	16-19	<b>F. Knaus</b>
<b>701-1409-00L</b>	<b>Research Seminar: Ecological Genetics W 2 credits 1S</b> Minimum number of participants is 5.						
701-1409-00 S	Research Seminar: Ecological Genetics or by arrangement			1 hrs	Wed	11-12	<b>S. Fior</b>
<b>701-1425-01L</b>	<b>Genetic Diversity: Techniques W 2 credits 4P</b> Number of participants limited to 8.  Waiting list will be deleted November 1st, 2021.  No enrollment possible after October 18th, 2021.						
701-1425-01 P	Genetic Diversity: Techniques Language of the course: English  Start of the course: Wednesday, 3.11.21 at 13:15-17:00, end of the course: Wednesday, 24.11.21 at 13:15-17:00, individual work in between (about one whole day per week preferably Monday to Wednesday). Course room for the introduction and final discussion will be announced, lab work has to be done at the GDC.			60s hrs			<b>A. M. Minder Pfyl</b>
<b>701-1676-01L</b>	<b>Genomics of Environmental Adaptation W 2 credits 3G</b> Number of participants limited to 14.						



Waiting list will be deleted January 20th, 2022.

Prerequisites: good knowledge in population genetics and some experience in using GIS and R is required.

701-1676-01 G	Genomics of Environmental Adaptation <i>Blockkurs: 07. bis 11.02.2022</i> <i>Ort der Veranstaltung: EP D01 / LG E05 WSL Birmensdorf</i>			40s hrs					<b>R. Holderegger</b> , F. Gugerli, C. Rellstab
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------	--	--	---------	--	--	--	--	----------------------------------------------------

<b>551-0737-00L</b>	<b>Ecology and Evolution: Interaction Seminar</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
551-0737-00 S	Ecology and Evolution: Interaction Seminar ■			2 hrs	by appt.				<b>S. Bonhoeffer</b>

## ►► Human-Environment Systems

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1651-00L</b>	<b>Environmental Governance</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
701-1651-00 G	Environmental Governance			3 hrs	Tue	10-13	CHN E46		<b>E. Lieberherr</b>
<b>851-0589-00L</b>	<b>Technology and Innovation for Development</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0589-00 V	Technology and Innovation for Development			2 hrs	Tue	12-14	LEE D101		<b>P. Aerni</b>
<b>701-1551-00L</b>	<b>Sustainability Assessment</b> <i>Number of participants limited to 35.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>Waiting list will be deleted October 1st, 2021.</i>								
	<i>No enrollment possible after October 1st, 2021.</i>								
701-1551-00 G	Sustainability Assessment			2 hrs	Fri	10-12	CHN G42		<b>P. Krüttli</b> , D. Nef

## ►► Forest and Landscape Management

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1615-00L</b>	<b>Advanced Forest Pathology</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1615-00 G	Advanced Forest Pathology <i>Lehrsprache Deutsch möglich auf Wunsch der Studierenden.</i> <i>Lehrveranstaltung wird im HS21 zum letzten Mal angeboten.</i>			2 hrs	Thu	16-18	CHN F42		<b>S. Prospero</b>
<b>701-1631-00L</b>	<b>Foundations of Ecosystem Management</b>	<b>W</b>	<b>5 credits</b>	<b>3G</b>					
701-1631-00 G	Foundations of Ecosystem Management			3 hrs	Thu	10-13	CHN G46 HG E41 HG E33.1		<b>J. Ghazoul</b> , C. Garcia, J. Garcia Ulloa, A. Giger Dray
<b>701-1651-00L</b>	<b>Environmental Governance</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
701-1651-00 G	Environmental Governance			3 hrs	Tue	10-13	CHN E46		<b>E. Lieberherr</b>
<b>751-5125-00L</b>	<b>Stable Isotope Ecology of Terrestrial Ecosystems</b> <i>Number of participants limited to 20.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-5125-00 G	Stable Isotope Ecology of Terrestrial Ecosystems ■ <i>This block course takes place on 14 January 2022 to 21 January 2022.</i>			2 hrs	14.01.- 21.01.	08-18	LFW B2		<b>R. A. Werner</b> , N. Buchmann, A. Gessler, M. Lehmann
<b>102-0675-00L</b>	<b>Earth Observation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
102-0675-00 G	Erdbbeobachtung			3 hrs	Thu	13-16 14-15	HIL E8 HIL E15.2		<b>I. Hajnsek</b> , E. Baltsavias
<b>701-1776-00L</b>	<b>Geographic Data Processing with Python and ArcGIS</b> <i>Number of participants limited to 30.</i>	<b>W</b>	<b>1 credit</b>	<b>2U</b>					
	<i>Waiting list will be deleted September 14th, 2021.</i>								
701-1776-00 U	Geographic Data Processing with Python and ArcGIS <i>3-day block course.</i>			30s hrs	15.09. 16.09. 17.09.	09-17 09-17 09-17	NO D39 NO D39 NO D39		<b>A. Baltensweiler</b>
<b>701-1682-00L</b>	<b>Dendroecology</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
701-1682-00 G	Dendroecology <i>Zusätzlich zur Lehrveranstaltung wird eine ganztägige Exkursion angeboten</i>			3 hrs	Fri	12-14	CHN G46		<b>C. Bigler</b> , K. Treydte, G. von Arx
<b>701-1695-00L</b>	<b>Soil Science Seminar</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>					
701-1695-00 S	Soil Science Seminar			1 hrs	Tue	17-19	CHN P12		<b>R. Kretzschmar</b> , A. Carminati, S. Dötterl, E. Frossard, M. Hartmann

## ►► Inter- and Transdisciplinary Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0015-00L</b>	<b>Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement</b> <i>Number of participants limited to 20.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					

Priority is given to PhD students D-USYS.

All participants will be on the waiting list at first. Enrollment is possible until 15 September 2021. The waiting list is active until 17 September. All students will be informed on 19 September, if they can participate in the lecture. The lecture takes place if a minimum of 12 students register for it.

701-0015-00 S	Transdisciplinary Research: Challenges of Interdisciplinarity and Stakeholder Engagement <i>Irregular course</i>	2 hrs	Wed/2w 08-12	CHN K77	<b>M. Stauffacher</b> , C. E. Pohl, B. Vienni Baptista
---------------	---------------------------------------------------------------------------------------------------------------------	-------	--------------	---------	-----------------------------------------------------------

## ►► Basic and Scientific Skills

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0019-00L</b>	<b>Readings in Environmental Thinking</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
701-0019-00 S	Readings in Environmental Thinking			2 hrs	Fri	16-18	CHN G42 CHN G46	<b>J. Ghazoul</b>
<b>701-3001-00L</b>	<b>Environmental Systems Data Science</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-3001-00 G	Environmental Systems Data Science			2 hrs	Tue	08-10	CHN D44 CHN D46 CHN F42 CHN G22 HG D1.1	<b>L. Pellissier</b> , J. Payne, B. Stocker
					21.09.	08-10		
<b>851-0180-00L</b>	<b>Research Ethics</b> <i>Number of participants limited to 40</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
	<i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>							
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1	<b>G. Achermann</b> , P. Emch

## ► Additional Courses

Course Catalogue of ETH Zurich

### Doctoral Department of Environmental Sciences - Key for Type

Dr	Suitable for doctorate	W	Eligible for credits
O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# Electrical Engineering and Information Technology Bachelor

## ► 1st Semester

### ►► First Year Examinations

#### ►►► First Year Examination Block A

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0003-00L</b>	<b>Digital Circuits</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
227-0003-00 V	Digitaltechnik			2 hrs	Wed	10-12	ETF C1	<b>M. Luisier</b>
227-0003-00 U	Digitaltechnik <i>Study-Center: Donnerstags 18 - 20 Uhr im ETF E 1</i>			2 hrs	Thu	14-16	CHN D46 CHN G46 ETZ E8 ETZ E9 ETZ F91 HG D3.1 HG D5.1 HG E33.5 HG G26.3 HG G26.5 NO C44 NO E11	<b>M. Luisier</b>
<b>401-0151-00L</b>	<b>Linear Algebra</b>	<b>O</b>	<b>5 credits</b>	<b>3V+2U</b>				
401-0151-00 V	Lineare Algebra <i>Vorlesung im HG F1 mit Videoübertragung ins HG F3. Dauer jeweils bis 12:45</i>			3 hrs	Fri	10-13	HG F1 HG F3	<b>V. C. Gradinaru</b>
401-0151-00 U	Lineare Algebra <i>Groups are selected in myStudies. Übungen: Di 16-18 oder Do 16-18 für Studiengang Elektrotechnik und Informationstechnologie gemäss Gruppeneinteilung. Do 10-12 für Studiengang Rechnergestützte Wissenschaften. Übungen in den einzelnen Übungsgruppen beginnen in der zweiten Semesterwoche.  Zusätzlich zu den Übungen wird ein Study Center angeboten: (ab der zweiten Semesterwoche, gemäss <a href="https://metaphor.ethz.ch/x/2020/hs/401-0151-00L/">https://metaphor.ethz.ch/x/2020/hs/401-0151-00L/</a>)</i>			2 hrs	Tue	16-18	CAB G61 CHN C14 CLA E4 ML F40 NO D11 RZ F21	<b>V. C. Gradinaru</b>
					Thu	10-12 16-18	CAB G56 HG F26.5 CHN D48 CHN G46 ETZ E8 ETZ K91 ML E12	
<b>227-0001-00L</b>	<b>Networks and Circuits I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
227-0001-00 V	Netzwerke und Schaltungen I			2 hrs	Tue	14-16	ETF C1	<b>C. Franck</b>
227-0001-00 U	Netzwerke und Schaltungen I <i>Groups are selected in myStudies. Study-Center: Donnerstags 18 - 20 Uhr im ETF E 1</i>			2 hrs	Thu	10-12	CAB G57 CHN D42 ETZ E7 ETZ G91 ETZ J91 HG D3.1 HG D5.1 HG D5.3 HG G26.5 LEE C104 LEE D105 LFW C1	<b>C. Franck</b>
<b>151-0223-10L</b>	<b>Engineering Mechanics</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U+1K</b>				
151-0223-10 V	Technische Mechanik <i>Anstelle der Übungsstunden finden zwei Vorlesungsstunden am Dienstag 21.09.2021 von 8-10h im HG E 3 statt.</i>			2 hrs	Mon	10-12 21.09. 08-10	ETF C1 HG E3	<b>P. Tiso</b>
151-0223-10 U	Technische Mechanik <i>Groups are selected in myStudies. Anstelle der Übungsstunden finden zwei Vorlesungsstunden am Dienstag 21.09.2021 von 8-10h statt,</i>			2 hrs	Tue	08-10	CLA E4 ETZ E9 ETZ F91 ETZ G91 ETZ H91 ETZ J91 ETZ K91 LFW C1 LFW E13 ML F40	<b>P. Tiso</b>
151-0223-10 K	Technische Mechanik			1 hrs	Tue	10-11	ETF C1	<b>P. Tiso</b>

#### ►►► First Year Examination Block B

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0231-10L</b>	<b>Analysis 1</b>	<b>O</b>	<b>8 credits</b>	<b>4V+3U</b>				
	<i>Students in BSc EEIT may instead register for 401-1261-07L Analysis I: One Variable (for BSc Mathematics, BSc Physics and BSc Interdisciplinary Science (Phys Chem)) and take the performance assessment of the corresponding two-semester course. Students in BSc EEIT who wish to register for 401-1261-07L/401-1262-07L Analysis I: One Variable/Analysis II: Several Variables instead of 401-0231-10L/401-0232-10L Analysis 1/Analysis 2 must get in touch with</i>							

the Study Administration before the registration.

401-0231-10 V	Analysis 1 (für EEIT und RW) <i>Findet im HG F7 mit Videoübertragung ins HG F5 statt.</i>	4 hrs	Wed	08-10	HG F5 HG F7	<b>T. Rivière</b>
			Thu	08-10	HG F5 HG F7	
401-0231-10 U	Analysis 1 (für EEIT und RW) <i>Groups are selected in myStudies.</i> <i>Übungen:</i> <i>Mo 10-12 für Studiengang Rechnergestützte Wissenschaften.</i> <i>Mo 14-16 oder Mo 16-18 gemäss Gruppeneinteilung für Studiengänge Elektrotechnik und Informationstechnologie bzw. Interdisziplinäre Naturwissenschaften.</i> <i>Schnellübungen Fr 8-10 (14-täglich).</i>  <i>Zusätzlich zu den Übungen wird ein Study Center angeboten: Di 11-12 im IFW D 42 ab der zweiten Semesterwoche.</i>	3 hrs	Mon	10-12 14-16  16-18	CAB G56 LFW C4 ETZ F91 ETZ J91 HG D3.1 HG E22 LEE C114 LFV E41 ETZ J91 HG D3.1 HG E22 LEE C104 LEE C114 LFV E41 ETZ E9 ETZ K91 HG D3.2 IFW A32.1 LFV E41 LFW C5 NO C44	<b>T. Rivière</b>
			Fri/2w	08-10		

## ►► First Year Compulsory Laboratory Courses

Number	Title	Type	ECTS	Hours				Lecturers
227-0005-10L	Digital Circuits Laboratory	O	1 credit	1P				<b>A. Emboras, M. Luisier</b>
227-0005-10 P	Digitaltechnik ■			1 hrs	Wed	14-18	ETZ C96.1 ETZ C96.2 ETZ C99	
					Fri	14-18	ETZ C96.1 ETZ C96.2 ETZ C99	
252-0865-00L	Preparatory Course in Computer Science	O	1 credit	1P				<b>M. Schwerhoff</b>
252-0865-00 P	Vorkurs Informatik			1 hrs	24.09.	14-18	ETA F5	
					01.10.	14-18	ETA F5	
					08.10.	14-16	ETA F5	
					15.10.	14-16	ETA F5	

## ► 3rd Semester: Examination Blocks

### ►► Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
401-0353-00L	Analysis 3	O	4 credits	2V+2U				<b>M. Iacobelli</b>
401-0353-00 V	Analysis 3			2 hrs	Mon	08-10	HG G3	
401-0353-00 U	Analysis 3 <i>Groups are selected in myStudies.</i> <i>Exercises start in the second week of the semester.</i> <i>Es wird auch mindestens eine Übungsgruppe auf Deutsch angeboten.</i>			2 hrs	Fri	10-12	CAB G56 CLA E4 ETZ E7 ETZ J91 ETZ K91 LEE C114 LFV E41 LFW B3	<b>M. Iacobelli</b>
402-0053-00L	Physics II	O	8 credits	4V+2U				<b>G. Scalari</b>
402-0053-00 V	Physics II			4 hrs	Tue	10-12	HPH G3	
					Wed	14-16	HPH G3	<b>G. Scalari</b>
402-0053-00 U	Physics II			2 hrs	Tue	14-16	HCI E2	
							HIL B21	
							HIL D60.1	
							HIL E10.1	
							HIL F10.3	
							HIT F31.1	
							HIT F31.2	
							HIT F32	
							HIT J52	
							HIT J53	
							HPL D34	
227-0045-00L	Signals and Systems I	O	4 credits	2V+2U				<b>H. Bölcskei</b>
227-0045-00 V	Signal- und Systemtheorie I			2 hrs	Thu	08-10	HG F1	
227-0045-00 U	Signal- und Systemtheorie I			2 hrs	Tue	16-18	ETZ E6 HG E22 LEE C104 LEE C114 LFV E41	<b>H. Bölcskei</b>
252-0836-00L	Computer Science II	O	4 credits	2V+2U				<b>M. Schwerhoff, F. O. Friedrich Wicker</b>
252-0836-00 V	Informatik II			2 hrs	Thu	10-12	HG E7	

**►► Examination Block 2**

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0077-10L</b>	<b>Electronic Circuits</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
227-0077-10 V	Halbleiter-Schaltungstechnik			2 hrs	Fri	08-10	ETF C1	<b>T. Burger</b>
227-0077-10 U	Halbleiter-Schaltungstechnik			2 hrs	Fri	14-16	HG D7.1 HG F3	<b>T. Burger</b>
<b>401-0053-00L</b>	<b>Discrete Mathematics</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>				
401-0053-00 V	Diskrete Mathematik			2 hrs	Mon	10-12	HG G5	<b>D. Adjashvili</b>
401-0053-00 U	Diskrete Mathematik <i>Groups are selected in myStudies. Di 9-10 oder Di 18-19 gemäss Gruppeneinteilung.</i>			1 hrs	Tue	09-10	HCI H2.1 HIL C10.2 HIL E10.1 HPL D34 CLA E4 HG G26.5 ML F40	<b>D. Adjashvili</b>

**► 3rd Semester: Second Year Compulsory Laboratory Course**

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0079-10L</b>	<b>Electronic Circuits Laboratory</b>	<b>O</b>	<b>1 credit</b>	<b>1P</b>				
227-0079-10 P	Halbleiter-Schaltungstechnik ■			1 hrs	Thu	12-14 14-16 16-18	ETZ D96.1 ETZ D96.1 ETZ D96.1	<b>Q. Huang</b>

**► Laboratory Courses, Projects, Seminars**

*A minimum of 18 cp (under the 2016 regulations), respectively at least 15 cp (under the 2018 regulations) must be achieved in the category "Laboratory Courses, Projects, Seminars".*

**►► General Laboratory**

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0095-10L</b>	<b>General Laboratory I</b> <i>Only for Electrical Engineering and Information Technology BSc.</i>	<b>W</b>	<b>2 credits</b>	<b>2P</b>				
	<i>Enrolment via Online-Tool (EE-Website: Studies -&gt; Bachelor Program -&gt; Third Year -&gt; Laboratory Courses)</i>							
227-0095-10 P	Allgemeines Fachpraktikum I <i>Montag, Mittwoch, Freitag Nachmittag nach Vereinbarung.</i>			2 hrs				Professors
<b>227-0096-10L</b>	<b>General Laboratory II</b> <i>Only for Electrical Engineering and Information Technology BSc.</i>	<b>W</b>	<b>4 credits</b>	<b>4P</b>				
	<i>Enrolment via Online-Tool (EE-Website: Studies -&gt; Bachelor Program -&gt; Third Year -&gt; Laboratory Courses)</i>							
227-0096-10 P	Allgemeines Fachpraktikum II <i>Montag, Mittwoch, Freitag Nachmittag nach Vereinbarung.</i>			4 hrs				Professors

**►► Projects & Seminars**

*Enrolment is only possible for students in the BSc Electrical Engineering and Information Technology from Friday before the start of the semester.  
Places are allocated using the P&S application tool (<https://psapp.ee.ethz.ch/>).  
Please only enrol for P&S for which you apply via the tool.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0085-01L</b>	<b>Projects &amp; Seminars: Amateur Radio Course</b> <i>Only for Electrical Engineering and Information Technology BSc.</i>	<b>W</b>	<b>1.5 credits</b>	<b>1P</b>				
	<i>The course unit can only be taken once. Repeated enrollment in a later semester is not creditable.</i>							

227-0085-01 P	<p>Projekte &amp; Seminare: Amateurfunk-Kurs ■</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitag im Semester mittags möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>	W	3 credits	3P	1 hrs	J. Leuthold
227-0085-02L	<p><b>Projects &amp; Seminars: Game Development with Unity</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once.          Repeated enrollment in a later semester is not creditable.</p>					
227-0085-02 P	<p>Projekte &amp; Seminare: Game Development with Unity ■</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitag im Semester mittags möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>				3 hrs	M. Magno
227-0085-03L	<p><b>Projects &amp; Seminars: COMSOL Design Tool – Design of Optical Components</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once.          Repeated enrollment in a later semester is not creditable.</p>					
227-0085-03 P	<p>Projekte &amp; Seminare: COMSOL Design Tool – Design of Optical Components ■</p> <p>Does not take place this semester.</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>				3 hrs	J. Leuthold
227-0085-04L	<p><b>Projects &amp; Seminars: Microcontrollers for Sensors and Internet of Things</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once.          Repeated enrollment in a later semester is not creditable.</p>					

Things ■

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):

<https://psapp.ee.ethz.ch/>

Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

---

**227-0085-05L Projects & Seminars: Fast Signal Acquisition and Processing for Quantum Experiments Using FPGA** W 3 credits 3P  
Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
Repeated enrollment in a later semester is not creditable.

227-0085-05 P Projekte & Seminare: Fast Signal Acquisition and Processing for Quantum Experiments Using FPGA ■ 3 hrs

M. Magno

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):

<https://psapp.ee.ethz.ch/>

Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitag im Semester mittags möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

The lecturers will communicate the exact lesson times of ONLINE courses.

---

**227-0085-06L Projects & Seminars: Neural Network on Low Power FPGA: A Practical Approach** W 2 credits 2P  
Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
Repeated enrollment in a later semester is not creditable.

227-0085-06 P Projekte & Seminare: Neural Network on Low Power FPGA: A Practical Approach ■ 2 hrs

Does not take place this semester.

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):

<https://psapp.ee.ethz.ch/>

Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitag im Semester mittags möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

Zeit: Dienstag, 16:00 - 18:30 Uhr.

---

**227-0085-07L Projects & Seminars: Deep Learning for Smartphone Apps (DLSA)** W 3 credits 3P  
Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
Repeated enrollment in a later semester is not creditable.

227-0085-07 P	Projekte & Seminare: Deep Learning for Smartphone Apps (DLSA) ■ <i>Does not take place this semester.</i> <i>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):</i> <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a> <i>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</i>  <i>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></i> <i>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</i>	3 hrs	L. Van Gool	
227-0085-08L	<b>Projects &amp; Seminars: Bluetooth Low Energy Programming for IoT Sensing System</b> <i>Only for Electrical Engineering and Information Technology BSc.</i>  <i>The course unit can only be taken once.</i> <i>Repeated enrollment in a later semester is not creditable.</i>	W	3 credits	3P
227-0085-08 P	Projekte & Seminare: Bluetooth Low Energy Programming for IoT Sensing System ■ <i>Does not take place this semester.</i> <i>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):</i> <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a> <i>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</i>  <i>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></i> <i>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</i>	3 hrs		
227-0085-09L	<b>Projects &amp; Seminars: Spiking Neural Network on Neuromorphic Processors</b> <i>Only for Electrical Engineering and Information Technology BSc.</i>  <i>The course unit can only be taken once.</i> <i>Repeated enrollment in a later semester is not creditable.</i>	W	3 credits	3P
227-0085-09 P	Projekte & Seminare: Spiking Neural Network on Neuromorphic Processors ■ <i>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):</i> <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a> <i>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</i>  <i>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></i> <i>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</i>	3 hrs	G. Indiveri	
227-0085-11L	<b>Projects &amp; Seminars: Deep Learning for Image Manipulation (DLIM)</b> <i>Only for Electrical Engineering and Information Technology BSc.</i>  <i>The course unit can only be taken once.</i> <i>Repeated enrollment in a later semester is not creditable.</i>	W	3 credits	3P



227-0085-11 P	<p>Projekte &amp; Seminare: Deep Learning for Image Manipulation (DLIM) ■</p> <p><i>Does not take place this semester.</i></p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>	3 hrs	L. Van Gool
227-0085-12L	<p><b>Projects &amp; Seminars: Electronic Circuits W &amp; Signals Exploration Laboratory</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once. Repeated enrollment in a later semester is not creditable.</p>	2 credits	1P
227-0085-12 P	<p>Projekte &amp; Seminare: Electronic Circuits &amp; Signals Exploration Laboratory ■</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>	1 hrs	H.-A. Loeliger
227-0085-13L	<p><b>Projects &amp; Seminars: Assembling and Controlling a Tuning-Fork AFM</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once. Repeated enrollment in a later semester is not creditable.</p>	W	3.5 credits
227-0085-13 P	<p>Projekte &amp; Seminare: Assembling and Controlling a Tuning-Fork AFM ■</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>Früherer Titel bis HS 2020: Let's Build and Control our own Atomic Force Microscope...</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p> <p>Former title until AS 2020: Let's Build and Control our own Atomic Force Microscope...</p>	3.5 hrs	T. Zambelli
227-0085-14L	<p><b>Projects &amp; Seminars: Technical and Economic Aspects of Renewable Energy Supply</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once. Repeated enrollment in a later semester is not creditable.</p>	W	3 credits
			3P

227-0085-14 P	<p>Projekte &amp; Seminare: Technical and Economic Aspects of Renewable Energy Supply ■</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>	W	3 hrs	G. Hug
227-0085-15L	<p><b>Projects &amp; Seminars: Python for Engineers - Get Productive in the Classroom, in the Lab and at Home</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once. Repeated enrollment in a later semester is not creditable.</p>	W	3 credits	3P
227-0085-15 P	<p>Projekte &amp; Seminare: Python for Engineers - Get Productive in the Classroom, in the Lab and at Home ■</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>		3 hrs	J. Leuthold
227-0085-16L	<p><b>Projects &amp; Seminars: Machine Learning for Brain-Computer Interfaces</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once. Repeated enrollment in a later semester is not creditable.</p>	W	3 credits	3P
227-0085-16 P	<p>Projekte &amp; Seminare: Machine Learning for Brain-Computer Interfaces ■</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>		3 hrs	L. Benini
227-0085-17L	<p><b>Projects &amp; Seminars: Building a Wireless Infrared Headphone</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once. Repeated enrollment in a later semester is not creditable.</p>	W	2 credits	2P

227-0085-17 P Projekte & Seminare: Bau eines drahtlosen Infrarot-Kopfhörers ■ 2 hrs

M. Lerjen

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitag im Semester mittags möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

---

227-0085-18L **Projects & Seminars: Bits on Air** W 2 credits 2P  
 Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
 Repeated enrollment in a later semester is not creditable.

227-0085-18 P Projekte & Seminare: Bits on Air ■ 2 hrs

M. Lerjen

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitag im Semester mittags möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester

---

227-0085-19L **Projects & Seminars: Software Defined Radio** W 3 credits 3P  
 Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
 Repeated enrollment in a later semester is not creditable.

227-0085-19 P Projekte & Seminare: Software Defined Radio ■ 3 hrs

M. Lerjen

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitag im Semester mittags möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

---

227-0085-21L **Projects & Seminars: Quad-Rotors: Control and Estimation** W 2 credits 2P  
 Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
 Repeated enrollment in a later semester is not creditable.

227-0085-21 P	<p>Projekte &amp; Seminare: Quad-Rotors: Control and Estimation ■ 2 hrs</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>				J. Lygeros
227-0085-22L	<p><b>Projects &amp; Seminars: Programming of a Blackfin DSP</b> W 4 credits 4P</p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once.          Repeated enrollment in a later semester is not creditable.</p>				
227-0085-22 P	<p>Projekte &amp; Seminare: Programmierung eines Blackfin DSP ■ 4 hrs</p> <p>Does not take place this semester.          Start wird noch angekündigt. Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>Start tba. To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>				H.-A. Loeliger
227-0085-23L	<p><b>Projects &amp; Seminars: Phase Change Materials and Memories</b> W 1 credit 1P</p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once.          Repeated enrollment in a later semester is not creditable.</p>				
227-0085-23 P	<p>Projekte &amp; Seminare: Phase Change Materials and Memories ■ 1 hrs</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a>          Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p> <p>Course hours: 14:00 - 17:30 h</p>				M. Yarema
227-0085-24L	<p><b>Projects &amp; Seminars: Vision and Control in RoboCup</b> W 3 credits 1P</p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>The course unit can only be taken once.          Repeated enrollment in a later semester is not creditable.</p>				

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

---

**227-0085-25L Projects & Seminars: Magnetic Resonance: From Spectrum to Image** W 1 credit 1P  
 Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
 Repeated enrollment in a later semester is not creditable.

227-0085-25 P Projekte & Seminare: Magnetresonanz: Vom Spektrum zum Bild ■ 1 hrs

M. Weiger Senften

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enrol for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrolment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

---

**227-0085-26L Projects & Seminars: Biosignal Acquisition and Processing for IoT Wearable Devices** W 3 credits 3P  
 Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
 Repeated enrollment in a later semester is not creditable.

227-0085-26 P Projekte & Seminare: Biosignal Acquisition and Processing for IoT 3 hrs  
 Wearable Devices ■

Does not take place this semester.  
 Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

---

**227-0085-27L Projects & Seminars: Android Application Development (AAD)** W 4 credits 3P  
 Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
 Repeated enrollment in a later semester is not creditable.

227-0085-27 P Projekte & Seminare: Android Application Development (AAD) ■ 3 hrs

*Does not take place this semester.*

*Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):*

*<https://psapp.ee.ethz.ch/>*

*Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.*

*To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>*

*Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.*

---

227-0085-28L **Projects & Seminars: iCEBreaker FPGA For IoT Sensing Systems** W 3 credits 3P

*Only for Electrical Engineering and Information Technology BSc.*

*The course unit can only be taken once.*

*Repeated enrollment in a later semester is not creditable.*

227-0085-28 P Projekte & Seminare: iCEBreaker FPGA For IoT Sensing Systems ■ 3 hrs M. Magno

*Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):*

*<https://psapp.ee.ethz.ch/>*

*Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.*

*To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>*

*Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.*

---

227-0085-29L **Projects & Seminars: Embedded Deep Learning with Huawei Atlas 200 AI Dev Kit** W 3 credits 3P

*Only for Electrical Engineering and Information Technology BSc.*

*The course unit can only be taken once.*

*Repeated enrollment in a later semester is not creditable.*

227-0085-29 P Projekte & Seminare: Embedded Deep Learning with Huawei Atlas 200 AI Dev Kit ■ 3 hrs M. Magno

*Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):*

*<https://psapp.ee.ethz.ch/>*

*Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.*

*To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>*

*Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.*

---

227-0085-31L **Projects & Seminars: Vision Goes Vegas** W 2 credits 2P

*Only for Electrical Engineering and Information Technology BSc.*

*The course unit can only be taken once.*

*Repeated enrollment in a later semester is not creditable.*

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

**227-0085-32L Projects & Seminars: Magnetic Fields in our Daily Life** W 2 credits 2P  
 Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
 Repeated enrollment in a later semester is not creditable.

227-0085-32 P Projekte & Seminare: Magnetische Felder im Alltag ■ 2 hrs Wed 10-13 ETZ H91 J. Leuthold

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

**227-0085-33L Projects & Seminars: Accelerating Genome Analysis with FPGAs, GPUs, and New Execution Paradigms** W 3 credits 3P  
 Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
 Repeated enrollment in a later semester is not creditable.

227-0085-33 P Projekte & Seminare: Accelerating Genome Analysis with FPGAs, GPUs, and New Execution Paradigms ■ 3 hrs

M. H. K. Alser,  
 J. Gómez Luna

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

Time: to be arranged with each student  
 Location: various

**227-0085-34L Projects & Seminars: Exploring Future Memory Systems with RAMulator** W 3 credits 3P  
 Only for Electrical Engineering and Information Technology BSc.

The course unit can only be taken once.  
 Repeated enrollment in a later semester is not creditable.

227-0085-34 P	Projekte & Seminare: Exploring Future Memory Systems with RAMulator ■ Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a> Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.  To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a> Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.  Time: to be arranged with each student Location: various	3 hrs	O. Mutlu, H. Hasan
227-0085-35L	<b>Projects &amp; Seminars: Enabling Secure, Reliable and Fast Memory with Hands-On FPGA Experiments</b> Only for Electrical Engineering and Information Technology BSc.  The course unit can only be taken once. Repeated enrollment in a later semester is not creditable.	W 3 credits 3P	
227-0085-35 P	Projekte & Seminare: Enabling Secure, Reliable and Fast Memory with Hands-On FPGA Experiments ■ Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a> Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.  To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a> Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.  Time: To be arranged with each student Location: various	3 hrs	O. Mutlu, H. Hasan
227-0085-36L	<b>Projects &amp; Seminars: Genome Sequencing on Mobile Devices</b> Only for Electrical Engineering and Information Technology BSc.  The course unit can only be taken once. Repeated enrollment in a later semester is not creditable.	W 3 credits 3P	
227-0085-36 P	Projekte & Seminare: Genome Sequencing on Mobile Devices ■ Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a> Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.  To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a> Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.  Time: To be arranged with each student Location: various	3 hrs	M. H. K. Alser, J. Gómez Luna
227-0085-37L	<b>Projects &amp; Seminars: Exploring the Processing-in-Memory Paradigm for Future Computing Systems</b> Only for Electrical Engineering and Information Technology BSc.  The course unit can only be taken once.	W 3 credits 3P	



<p><i>Repeated enrollment in a later semester is not creditable.</i></p>				
227-0085-37 P	<p>Projekte &amp; Seminare: Exploring the Processing-in-Memory Paradigm for Future Computing Systems ■</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p> <p>Time: to be arranged with each student</p> <p>Location: various</p>	3 hrs	J. Gómez Luna	
227-0085-38L	<p><b>Projects &amp; Seminars: Controlling Biological Neuronal Networks Using Machine Learning</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.</p>	W	3 credits	2P
227-0085-38 P	<p>Projekte &amp; Seminare: Controlling Biological Neuronal Networks Using Machine Learning ■</p> <p>Does not take place this semester.</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>	2 hrs	J. Vörös	
227-0085-39L	<p><b>Projects &amp; Seminars: Python for Science &amp; Machine Learning</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.</p>	W	3 credits	3P
227-0085-39 P	<p>Projekte &amp; Seminare: Python for Science &amp; Machine Learning</p> <p>Does not take place this semester.</p> <p>Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.</p> <p>To access the offer and to enroll for courses log in (with your n.ethz account): <a href="https://psapp.ee.ethz.ch/">https://psapp.ee.ethz.ch/</a></p> <p>Please note that the P&amp;S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.</p>	3 hrs		
227-0085-41L	<p><b>Projects &amp; Seminars: Memory Design: From Architecture Down to Basic Cells</b></p> <p>Only for Electrical Engineering and Information Technology BSc.</p> <p>Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.</p>	W	3 credits	3P

Grundspeicherzelle ■

*Does not take place this semester.*

*Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):*

*<https://psapp.ee.ethz.ch/>*

*Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.*

*To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>*

*Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.*

---

**227-0085-42L Projects & Seminars: Constructing a Receive Coil for Magnetic Resonance Imaging** W 1.5 credits 1.5P

*Only for Electrical Engineering and Information Technology BSc.*

*Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.*

**227-0085-42 P Projekte & Seminare: Bau einer Empfangsspule für die Magnetresonanzbildgebung ■** 1.5 hrs

K. P. Prüssmann

*Does not take place this semester.*

*Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):*

*<https://psapp.ee.ethz.ch/>*

*Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.*

*To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>*

*Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.*

---

**227-0085-43L Projects & Seminars: Clean Room Technology – Fabrication and Characterization of Photonic Materials** W 3 credits 3P

*Only for Electrical Engineering and Information Technology BSc.*

*Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.*

**227-0085-43 P Projekte & Seminare: Clean Room Technology – Fabrication and Characterization of Photonic Materials ■** 3 hrs

*Does not take place this semester.*

*Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):*

*<https://psapp.ee.ethz.ch/>*

*Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.*

*To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>*

*Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.*

*Ort: ETZ K71 und BRNC (Reinraum in Rüschlikon).*

*Durchführung üblicherweise jährlich im FS geplant.*

---

**227-0085-44L Projects & Seminars: Understanding and Designing Modern Solid-State Drives (SSDs)** W 3 credits 3P

*Only for Electrical Engineering and Information Technology BSc.*

*Course can only be registered for once. A*

repeatedly registration in a later semester is not chargeable.

227-0085-44 P Projekte & Seminare: Understanding and Designing Modern Solid-State Drives (SSDs) ■ 3 hrs

J. Park

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

Time: To be arranged with each student taking the course  
 Room: tba

227-0085-45L **Projects & Seminars: Robotic Maze Solving with a TI-RSLK Robot (RMaze)** W 3 credits 3P

Only for Electrical Engineering and Information Technology BSc.

Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.

227-0085-45 P Projekte & Seminare: Robotic Maze Solving with a TI-RSLK Robot (RMaze) ■ 3 hrs

Does not take place this semester.  
 Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

227-0085-46L **Projects & Seminars: Embedded Systems With Drones** W 4 credits 4P

Only for Electrical Engineering and Information Technology BSc.

Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.

227-0085-46 P Projekte & Seminare: Embedded Systems With Drones ■ 4 hrs

M. Magno

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

227-0085-47L **Projects & Seminars: Machine Learning on Smart Phone** W 3 credits 3P

Only for Electrical Engineering and Information Technology BSc.

Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.

227-0085-47 P Projekte & Seminare: Machine Learning on Smart Phone ■ 3 hrs

*Does not take place this semester.  
Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.*

*To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.*

---

227-0085-48L **Projects & Seminars: Introduction to Program Nao Robots for Robocup Competition** W 4 credits 4P  
*Only for Electrical Engineering and Information Technology BSc.*

*Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.*

227-0085-48 P Projekte & Seminare: Introduction to Program Nao Robots for Robocup Competition ■ 4 hrs M. Magno

*Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.*

*To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.*

---

227-0085-49L **Projects & Seminars: Smart Patch Projects** W 4 credits 4P  
*Only for Electrical Engineering and Information Technology BSc.*

*Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.*

227-0085-49 P Projekte & Seminare: Smart Patch Projects ■ 4 hrs M. Magno

*Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.*

*To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.*

---

227-0085-51L **Projects & Seminars: Hands-on Acceleration on Heterogeneous Computing Systems** W 3 credits 3P  
*Only for Electrical Engineering and Information Technology BSc.*

*Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.*

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

**227-0085-53L Projects & Seminars: Motion Sensing Technologies for Magnetic Resonance Imaging (MRI)** W 4 credits 4P  
 Only for Electrical Engineering and Information Technology BSc.

Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.

227-0085-53 P Projekte & Seminare: Motion Sensing Technologies for Magnetic Resonance Imaging (MRI) ■ 4 hrs

K. P. Prüssmann

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

**227-0085-54L Projects & Seminars: Optics and Spectroscopy Lab** W 3 credits 4P  
 Only for Electrical Engineering and Information Technology BSc.

Course can only be registered for once. A repeatedly registration in a later semester is not chargeable.

227-0085-54 P Projekte & Seminare: Optics and Spectroscopy Lab ■ 4 hrs

J. Leuthold

Für den Zugang zum Angebot und zur Einschreibung loggen Sie sich hier ein (mit Ihrem n.ETHZ account):  
<https://psapp.ee.ethz.ch/>  
 Bitte beachten Sie, dass die Seite jeweils erst zwei Wochen vor Semesterbeginn zugänglich ist und im Verlauf des Semesters wieder abgeschaltet wird. Die Einschreibung ist nur von Freitag vor Semesterbeginn bis zum ersten Freitagmittag im Semester möglich.

To access the offer and to enroll for courses log in (with your n.ethz account): <https://psapp.ee.ethz.ch/>  
 Please note that the P&S-site is accessible no earlier than two weeks before the start of the semester until four weeks after the start of the semester. Enrollment is only possible from Friday before the start of the semester until noon of the first Friday in the semester.

## ►► Group Projects

Number	Title	Type	ECTS	Hours	Lecturers
<b>227-0091-10L</b>	<b>Group Project I</b>	<b>W</b>	<b>6 credits</b>	<b>5A</b>	
227-0091-10 A	Gruppenarbeit I ■			5 hrs by appt.	Lecturers
<b>227-0092-10L</b>	<b>Group Project II</b>	<b>W</b>	<b>6 credits</b>	<b>5A</b>	
227-0092-10 A	Gruppenarbeit II ■			5 hrs by appt.	Lecturers

## ►► Internship in Industry

Please note the conditions for internships in industry as set forward by the "Guidelines for the "Laboratory Courses - Projects - Seminars ", see [https://www.ee.ethz.ch/content/dam/ethz/special-interest/itet/departement/Studies/Bachelor/Regulations/Richtlinien\\_Praktika-Projekte-Seminare\\_v5\\_final.pdf](https://www.ee.ethz.ch/content/dam/ethz/special-interest/itet/departement/Studies/Bachelor/Regulations/Richtlinien_Praktika-Projekte-Seminare_v5_final.pdf) (German only).

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

**227-0093-10L Internship in Industry W 6 credits**

Only for students in the Bachelor's Programme Electrical Engineering and Information Technology, Regulations 2012/2016.  
For students enrolled in the 2018 Programme Regulations, see "227-1550-10L Internship in Industry" at Master's level.

227-0093-10 P Industriepraktikum ■

external organisers

## ►► Additional Subjects

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0651-00L</b>	<b>Applied Circuit and PCB-Design</b> <i>Number of participants limited to 24.</i>	<b>W</b>	<b>2 credits</b>	<b>4G</b>				
227-0651-00 G	Schaltungs- und Leiterplattenentwicklung in der Praxis <i>First lesson (Thu September 23, 2021) will last approx 2 hours: course presentation.</i>			4 hrs	Thu	08-12	ETZ K63	<b>A. Blanco Fontao</b>
<i>Some parts of the course might be given as pre-recorded video lectures or as remote teaching.</i>								
<i>Although not strictly mandatory, attendance is of high importance and will be considered as part of the evaluation criteria. Students not willing to attend regularly to the lectures are not encouraged to register to it.</i>								
<i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the course, will fail to get the credits.</i>								

## ► 5th Semester: Third Year Core Courses

Can be freely combined, a list of recommendations is available under <https://ee.ethz.ch/studies/bachelor/third-year/core-courses.html>

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0101-00L</b>	<b>Discrete-Time and Statistical Signal Processing</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18	HG F3	<b>H.-A. Loeliger</b>
<b>227-0102-00L</b>	<b>Discrete Event Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0102-00 G	Diskrete Ereignissysteme			4 hrs	Thu	14-16 16-18	HG D7.2 HG D7.2	<b>R. Jacob, L. Vanbever, R. Wattenhofer</b>
<b>227-0103-00L</b>	<b>Control Systems</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60	<b>F. Dörfler</b>
227-0103-00 U	Regelsysteme			2 hrs	Tue	10-12	CHN C14	<b>F. Dörfler</b>
					21.09.	12-14	CHN C14	
<b>227-0113-00L</b>	<b>Power Electronics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0113-00 G	Leistungselektronik			4 hrs	Thu	14-18	HG E1.2	<b>J. W. Kolar</b>
<b>227-0116-00L</b>	<b>VLSI 1: HDL based design for FPGAs</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
227-0116-00 G	VLSI 1: HDL based design for FPGAs			5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1	<b>F. K. Gürkaynak, L. Benini</b>
<b>227-0121-00L</b>	<b>Communication Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0121-00 G	Kommunikationssysteme			4 hrs	Wed	08-12	ML F39	<b>A. Wittneben</b>
<b>227-0124-00L</b>	<b>Embedded Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0124-00 G	Embedded Systems <i>Exercises in groups.</i>			4 hrs	Mon Wed Fri	14-16 16-18 16-18	ETF C1 ETZ D61.1 ETZ D96.1 ETF E1 ETZ D61.1 ETZ D96.1	<b>L. Thiele, M. Magno</b>
<b>227-0145-00L</b>	<b>Solid State Electronics and Optics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0145-00 G	Solid State Electronics and Optics			4 hrs	Mon Thu	14-16 14-16	ML F38 LFW C4	<b>N. Yazdani, V. Wood</b>
<b>227-0166-00L</b>	<b>Analog Integrated Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0166-00 V	Analog Integrated Circuits			2 hrs	Fri	10-12	ETZ E6	<b>T. Jang</b>
227-0166-00 U	Analog Integrated Circuits <i>Some of the exercise lessons will take place in computer room ETZ D61.1.</i> <i>To be announced during the course lessons.</i>			2 hrs	Fri	14-16	ETZ E6	<b>T. Jang</b>
<b>227-0311-00L</b>	<b>Qubits, Electrons, Photons</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>				
227-0311-00 V	Qubits, Electrons, Photons			3 hrs	Thu Fri	08-10 13-14	CHN F42 ETZ E9	<b>T. Zambelli</b>
227-0311-00 U	Qubits, Electrons, Photons			2 hrs	Wed	10-12	HG D3.2	<b>T. Zambelli</b>
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>			5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7	<b>S. Kozerke, K. P. Prüssmann</b>

<b>227-0393-10L</b>	<b>Bioelectronics and Biosensors</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0393-10 V	Bioelectronics and Biosensors			2 hrs	Fri	09-11	HG E1.2	<b>J. Vörös, M. F. Yanik</b>	
227-0393-10 U	Bioelectronics and Biosensors			2 hrs	Fri	08-09	HG E1.2	<b>M. F. Yanik, J. Vörös</b>	
						11-12	HG E1.2		

## ► 5th Semester: Third Year Additional Foundation Courses

Students complete at least two of the Additional Foundation Courses available for selection. Recommendations are available under <https://ee.ethz.ch/studies/bachelor/third-year/additional-foundation-courses.html>

Number	Title	Type	ECTS	Hours				Lecturers
227-0014-20L	Computational Thinking	W	4 credits	2V+1U				
227-0014-20 V	Computational Thinking			2 hrs	Wed	08-10	ETF C1	R. Wattenhofer
227-0014-20 U	Computational Thinking			1 hrs	Mon	12-13	ETZ F91	R. Wattenhofer
						13-14	ETZ F91	
					Tue	09-10	HG E33.3	
					Fri	10-11	ETZ G91	
						11-12	ETZ G91	
227-0053-00L	High-Frequency Design Techniques	W	4 credits	2V+2U				
227-0053-00 V	High-Frequency Design Techniques <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	08-10	HG E5	C. Bolognesi
227-0053-00 U	High-Frequency Design Techniques			2 hrs	Fri	08-10	ML H44	C. Bolognesi
227-0122-00L	Introduction to Electric Power Transmission: System & Technology	W	4 credits	2V+2U				
227-0122-00 V	Introduction to Electric Power Transmission: System & Technology			2 hrs	Thu	08-10	ML H44	C. Franck, G. Hug
227-0122-00 U	Introduction to Electric Power Transmission: System & Technology			2 hrs	Thu	10-12	ML H44	C. Franck, G. Hug

## ► Electives

This is only a small selection. Other courses from the ETH course catalogue may be chosen. Please consult the "Richtlinien zu Projekten, Praktika, Seminare" (German only), published on our website (<http://www.ee.ethz.ch/pps-richtlinien>).

## ►► Economics, Law and Management Electives

These subjects are particularly suitable for students planning to apply to the Master's Degree Program in Energy Science and Technology (MSc EST) or Management, Technology and Economics (MSc MTEC).

Number	Title	Type	ECTS	Hours					Lecturers
<b>351-0778-00L</b>	<b>Discovering Management</b> <i>Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercices) 351-0778-01.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
351-0778-00 G	Discovering Management <i>Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Fri	08-11	HG E1.1	<b>B. Clarysse, S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe</b>	
<b>351-0778-01L</b>	<b>Discovering Management (Exercises)</b> <i>Complementary exercises for the module Discovering Managment.</i>  <i>Prerequisite: Participation and successful completion of the module Discovering Management (351-0778-00L) is mandatory.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>					
351-0778-01 U	Discovering Management (Exercises)			1 hrs	Fri	11-12	HG E1.1	<b>B. Clarysse, L. P. T. Vandeweghe</b>	
<b>363-0511-00L</b>	<b>Managerial Economics</b> <i>Not for MSc students belonging to D-MTEC!</i>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
363-0511-00 V	Managerial Economics			3 hrs	Tue Wed	18-19 08-10	HG F5 HG G3	<b>V. Lohmann, P. Egger, M. Köthenbürger</b>	
<b>363-1109-00L</b>	<b>Introduction to Microeconomics</b> <i>GESS (Science in Perspective): This course is only for students enrolled in a Bachelor's degree programme.</i>  <i>Students enrolled in a Master's degree programme may attend "Principles of Microeconomics" (LE 363-0503-00L) instead.</i>  <i>Note for D-MAVT students: If you have already successfully completed "Principles of Microeconomics" (LE 363-0503-00L), then you will not be permitted to attend it again.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-1109-00 G	Einführung in die Mikroökonomie <i>Zusätzliche (freiwillige) Termine für Übungen zur Vorlesung werden zu Beginn der Vorlesung bekanntgegeben.</i>			2 hrs	Tue	10-12	HG E5	<b>M. Wörter, M. Beck</b>	

<b>851-0703-00L</b>	<b>Introduction to Law</b> <i>Students who have attended or will attend the lecture "Introduction to Law for Civil Engineering and Architecture " (851-0703-03L) or " Introduction to Law" (851-0708-00L), cannot register for this course unit.</i>  <i>Particularly suitable for students of D-ARCH, D-MAVT, D-MATL</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0703-00 V	Grundzüge des Rechts			2 hrs	Mon	14-16	HG E1.2	<b>O. Streiff Gnöppf</b>	
<b>851-0735-10L</b>	<b>Business Law</b> <i>Number of participants limited to 100</i>  <i>Particularly suitable for students of D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0735-10 V	Wirtschaftsrecht			2 hrs	Thu	14-16	HG D1.2	<b>P. Peyrot</b>	
<b>851-0738-00L</b>	<b>Intellectual Property: Introduction</b> <i>Particularly suitable for students of D-CHAB, D-INFK, D-ITET, D-MAVT, D-MATL, D-MTEC</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0738-00 V	Geistiges Eigentum: Eine Einführung <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online (via Zoom) statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	HG D7.1	<b>M. Schweizer</b>	
<b>851-0738-01L</b>	<b>The Role of Intellectual Property in the Engineering and Technical Sector</b> <i>Particularly suitable for students of D-BAUG, D-BIOL, D-BSSE, D-CHAB, D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0738-01 V	Die Rolle des Geistigen Eigentums im Ingenieurwesen und den technischen Wissenschaften			28s hrs	Fri/2w	14-18	LFW B1	<b>K. Houshang Pour Islam</b>	

## ►► Engineering Electives

Number	Title	Type	ECTS	Hours					Lecturers
	<i>Additional third year core courses may be credited as electives.</i>								
<b>227-0105-00L</b>	<b>Introduction to Estimation and Machine Learning</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0105-00 G	Introduction to Estimation and Machine Learning			4 hrs	Fri	14-18	ETF C1	<b>H.-A. Loeliger</b>	
<b>227-0110-00L</b>	<b>Electromagnetic Waves: Materials, Effects, and Antennas</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0110-00 V	Electromagnetic Waves: Materials, Effects, and Antennas			2 hrs	Wed	14-16	ETZ E8	<b>U. Koch</b>	
227-0110-00 U	Electromagnetic Waves: Materials, Effects, and Antennas			2 hrs	Wed	16-18	ETZ E8	<b>U. Koch</b>	
<b>227-0517-10L</b>	<b>Fundamentals of Electric Machines</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0517-10 G	Fundamentals of Electric Machines			4 hrs	Thu	08-10 10-12	HG D5.2 HG D5.2	<b>D. Bortis</b>	
<b>227-0652-00L</b>	<b>Maxwell, Einstein, and the GPS</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0652-00 V	Maxwell, Einstein, and the GPS			2 hrs	Fri	10-12	ETZ E9	<b>T. Zambelli</b>	
227-0652-00 U	Maxwell, Einstein, and the GPS			2 hrs	Wed	08-10	HG G26.1	<b>T. Zambelli</b>	
<b>151-0723-00L</b>	<b>Manufacturing of Electronic Devices</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0723-00 G	Manufacturing of Electronic Devices <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			3 hrs	Wed	14-17	LEE C114	<b>A. Kunz, A. Guber, R.-D. Moryson, F. Reichert</b>	
<b>151-0621-00L</b>	<b>Microsystems I: Process Technology and Integration</b>	<b>W</b>	<b>6 credits</b>	<b>3V+3U</b>					
151-0621-00 V	Microsystems I: Process Technology and Integration <i>The lecture starts in the second week of the Semester.</i>			3 hrs	Thu	13-16	HG E5	<b>C. Hierold, M. Haluska</b>	
151-0621-00 U	Microsystems I: Process Technology and Integration <i>The exercise starts in the third week of the Semester.</i>			3 hrs	Tue	16-19	HG E1.2	<b>M. Haluska</b>	
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	14-16	HG E5	<b>G. Fourny</b>	
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE	<b>G. Fourny</b>	
<b>376-0021-00L</b>	<b>Materials and Mechanics in Medicine</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					



376-0021-00 G	Materials and Mechanics in Medicine <i>Groups are selected in myStudies. lecture: Di 14-16h exercises: Di 16-17h, start at the second week of the semester.</i>	3 hrs	Tue	14-16 16-17	HG F1 CHN G42 ETZ E8 HG D7.1 ML H41.1 ON LINE	<b>M. Zenobi-Wong,</b> J. G. Snedeker
<i>The lecturers will communicate the exact lesson times of the ONLINE-exercises.</i>						

## ►► Man-Technology-Environment Electives ("MTU")

Number	Title	Type	ECTS	Hours	Lecturers		
<b>151-0227-00L</b>	<b>Basics of Air Transport (Aviation I)</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
151-0227-00 G	Basics of Air Transport (Aviation I)			3 hrs	Wed	13-16	CAB G11 <b>P. Wild</b>

## ► GESS Science in Perspective

### ►► Science in Perspective

*see Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended Science in Perspective  
(Type B) for D-ITET.*

## ►► Language Courses

*see Science in Perspective: Language  
Courses ETH/USZ*

## ► Bachelor's Project

*The Bachelor's Thesis is the final part of the bachelor's program and should therefore only be taken in the semester in which the bachelor's diploma is acquired.*

*The minimum requirement for enrollment is the successful completion of:*

- basic examination (examination blocks A+B) and
- subjects of the second year (examination blocks 1-3)

Number	Title	Type	ECTS	Hours				Lecturers	
227-0100-00L	<b>Bachelor's Thesis</b> <i>The Bachelor's Thesis is the final part of the bachelor's program and should therefore only be taken in the semester in which the bachelor's diploma is acquired.</i>  <i>The minimum requirement for enrollment is the successful completion of:</i> - basic examination (examination blocks A+B) and - subjects of the second year (examination blocks 1-3)  <i>Supervisor must be a professor at D-ITET or associated, see a link to the lists of those at <a href="https://www.ee.ethz.ch/studies/main-master/projects-and-master-thesis.html">https://www.ee.ethz.ch/studies/main-master/projects-and-master-thesis.html</a></i>	O	12 credits	26D					
227-0100-00 D	Bachelor-Arbeit ■ <i>Permission from lecturers required for all students</i>			360s hrs	by appt.			Supervisors	
227-1101-00L	<b>How to Write Scientific Texts</b> <i>Strongly recommended prerequisite for Semester Projects and Master Theses at D-ITET (MSc BME, MSc EEIT, MSc EST).</i>	E-	0 credits						
227-1101-00 S	How to Write Scientific Texts <i>Room to be announced</i>			4s hrs	04.11. 11.11.	16-18 16-18	n/a n/a	U. Koch	

## Electrical Engineering and Information Technology Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Electrical Engineering and Information Technology TC

More informations at: <https://www.ethz.ch/de/studium/didaktische-ausbildung/studienangebot-zulassung/didaktik-zertifikat.html>

## ► Educational Science

General course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours	Lecturers			
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V				
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1	E. Stern
851-0240-22L	<b>Coping with Psychosocial Demands of Teaching (EW4 DZ)</b> <i>Number of participants limited to 20.</i>  <i>The successful participation in EW1 ("Human Learning") and EW2 ("Designing Learning Environments for School") is recommended, but not a mandatory prerequisite.</i>	W	2 credits	3S				
851-0240-22 S	Bewältigung psychosozialer Anforderungen im Lehrberuf (EW4 DZ) ■			3 hrs	Tue	09-12	HG E33.1 HG F26.5 HG G26.1	U. Markwalder, S. Maurer, S. Peteranderl
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S				
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1	R. Schumacher
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S				
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40	E. Stern
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S				
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1	P. Edelsbrunner, T. Braas, C. M. Thurn
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S				

► **Subject Didactics and Professional Training**

*Important: You can only enroll in the courses of this category if you have not more than 12 CP left for possible additional requirements.*

Number	Title	Type	ECTS	Hours				Lecturers
227-0857-00L	<b>Didactics I for D-MAVT and D-ITET</b>	O	4 credits	3G				Q. Lohmeyer, A. Colotti
227-0857-00 G	Fachdidaktik I für D-MAVT und D-ITET ■			3 hrs	Wed	16-19	ML J37.1	
227-0859-10L	<b>Teaching Internship Including Examination Lessons Electrical Engineering and Information Technology</b> <i>The teaching internship can just be visited if all other courses of TC are completed. Repetition of the teaching internship is excluded even if the examination lessons are to be repeated.</i>	O	6 credits	13P				A. Colotti
227-0859-10 P	Unterrichtspraktikum mit Prüfungslektionen Elektrotechnik und Informationstechnologie DZ ■			180s hrs	by appt.			
227-0854-00L	<b>Mentored Work Subject Didactics Electrical Engineering and Information Technology</b> <i>Prerequisites: successful completion of FD I and FD II</i>	O	2 credits	4A				A. Colotti
227-0854-00 A	Mentorierte Arbeit Fachdidaktik Elektrotechnik und Informationstechnologie ■			60s hrs	by appt.			

**Electrical Engineering and Information Technology TC - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Electrical Engineering and Information Technology Master

## ► Master Studies (Programme Regulations 2018)

### ►► Communication

The core courses and specialisation courses below are a selection for students who wish to specialise in the area of "Communication", see <https://www.ee.ethz.ch/studies/main-master/areas-of-specialisation.html>.

The individual study plan is subject to the tutor's approval.

### ►►► Core Courses

These core courses are particularly recommended for the field of "Communication".  
You may choose core courses from other fields in agreement with your tutor.

A minimum of 24 credits must be obtained from core courses during the MSc EEIT.

### ►►►► Foundation Core Courses

Fundamentals at bachelor level, for master students who need to strengthen or refresh their background in the area.

Number	Title	Type	ECTS	Hours				Lecturers	
227-0121-00L	Communication Systems	W	6 credits	4G					A. Wittneben
227-0121-00 G	Kommunikationssysteme			4 hrs	Wed	08-12	ML F39		
227-0101-00L	Discrete-Time and Statistical Signal Processing	W	6 credits	4G					H.-A. Loeliger
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18	HG F3		

### ►►►► Advanced Core Courses

Advanced core courses bring students to gain in-depth knowledge of the chosen specialization. They are MSc level only.

Number	Title	Type	ECTS	Hours				Lecturers
227-0301-00L	Optical Communication Fundamentals	W	6 credits	2V+1U+1P				J. Leuthold
227-0301-00 V	Optical Communication Fundamentals			2 hrs	Tue	14-16	ETZ K91	
227-0301-00 U	Optical Communication Fundamentals			1 hrs	Tue	16-17	ETZ K91	
227-0301-00 P	Optical Communication Fundamentals			1 hrs	Tue	17-18	ETZ K91	
227-0417-00L	Information Theory I	W	6 credits	4G				A. Lapidoth
227-0417-00 G	Information Theory I			4 hrs	Wed	14-18	ETF C1	
227-0427-00L	Signal Analysis, Models, and Machine Learning	W	6 credits	4G				H.-A. Loeliger
	<i>This course was replaced by "Introduction to Estimation and Machine Learning" and "Advanced Signal Analysis, Modeling, and Machine Learning".</i>							
227-0427-00 G	Signal Analysis, Models, and Machine Learning			4 hrs				
	<i>Does not take place this semester.</i>							
227-0439-00L	Wireless Access Systems	W	6 credits	2V+2U				A. Wittneben
227-0439-00 V	Wireless Access Systems			2 hrs				
	<i>Does not take place this semester. This lecture will be moved to the spring semester. Next date spring 2022.</i>							
227-0439-00 U	Wireless Access Systems			2 hrs				A. Wittneben
	<i>Does not take place this semester. This lecture will be moved to the spring semester. Next date spring 2022.</i>							

### ►►► Specialisation Courses

These specialisation courses are particularly recommended for the area of "Communication", but you are free to choose courses from any other field in agreement with your tutor.

A minimum of 40 credits must be obtained from specialisation courses during the Master's Programme.

Number	Title	Type	ECTS	Hours				Lecturers
227-0102-00L	Discrete Event Systems	W	6 credits	4G				R. Jacob, L. Vanbever, R. Wattenhofer
227-0102-00 G	Diskrete Ereignissysteme			4 hrs	Thu	14-16 16-18	HG D7.2 HG D7.2	
227-0103-00L	Control Systems	W	6 credits	2V+2U				F. Dörfler
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60	
227-0103-00 U	Regelsysteme				Tue 21.09.	10-12 12-14	CHN C14 CHN C14	F. Dörfler
227-0116-00L	VLSI 1: HDL based design for FPGAs	W	6 credits	5G				F. K. Gürkaynak, L. Benini
227-0116-00 G	VLSI 1: HDL based design for FPGAs			5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1	
227-0148-00L	VLSI III: Test and Fabrication of VLSI Circuits	W	6 credits	4G				L. Benini
227-0148-00 G	VLSI III: Test and Fabrication of VLSI Circuits			4 hrs				
Does not take place this semester. Will be offered in spring 2022 as "227-0148-00L VLSI4: Practical VLSI: measurement and testing"								
227-0166-00L	Analog Integrated Circuits	W	6 credits	2V+2U				

227-0166-00 V	Analog Integrated Circuits		2 hrs	Fri	10-12	ETZ E6	<b>T. Jang</b>
227-0166-00 U	Analog Integrated Circuits <i>Some of the exercise lessons will take place in computer room ETZ D61.1. To be announced during the course lessons.</i>		2 hrs	Fri	14-16	ETZ E6	<b>T. Jang</b>
<b>227-0301-00L</b>	<b>Optical Communication Fundamentals</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1P</b>			
227-0301-00 V	Optical Communication Fundamentals		2 hrs	Tue	14-16	ETZ K91	<b>J. Leuthold</b>
227-0301-00 U	Optical Communication Fundamentals		1 hrs	Tue	16-17	ETZ K91	<b>J. Leuthold</b>
227-0301-00 P	Optical Communication Fundamentals		1 hrs	Tue	17-18	ETZ K91	<b>J. Leuthold</b>
<b>227-0377-10L</b>	<b>Physics of Failure and Reliability of Electronic Devices and Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
227-0377-10 V	Physics of Failure and Reliability of Electronic Devices and Systems		2 hrs	Thu	14-16	ETZ K91	<b>I. Shorubalko, M. Held</b>
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>			
227-0423-00 V	Neural Network Theory		2 hrs	Tue	10-12	HG F5	<b>H. Bölcskei</b>
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on: <a href="https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html">https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html</a>. The reserved room is meant for those students who want to follow the course from the campus.</i>		1 hrs	Tue	12-13	HG F5	<b>H. Bölcskei</b>
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>			
227-0447-00 V	Image Analysis and Computer Vision		3 hrs	Thu	14-17	HG F1	<b>L. Van Gool, E. Konukoglu, F. Yu</b>
227-0447-00 U	Image Analysis and Computer Vision		1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool, E. Konukoglu, F. Yu</b>
<b>227-0468-00L</b>	<b>Analog Signal Processing and Filtering</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>			
	<i>Suitable for Master Students as well as Doctoral Students.</i>						
227-0468-00 V	Analog Signal Processing and Filtering		2 hrs	Wed	08-10	CHN E46	<b>H. Schmid</b>
227-0468-00 U	Analog Signal Processing and Filtering		2 hrs	Wed	10-12	CHN E46	<b>H. Schmid</b>
<b>227-0477-00L</b>	<b>Acoustics I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0477-00 G	Acoustics I		4 hrs	Mon	14-18	ETZ E7	<b>K. Heutschi</b>
<b>227-0652-00L</b>	<b>Maxwell, Einstein, and the GPS</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>			
227-0652-00 V	Maxwell, Einstein, and the GPS		2 hrs	Fri	10-12	ETZ E9	<b>T. Zambelli</b>
227-0652-00 U	Maxwell, Einstein, and the GPS		2 hrs	Wed	08-10	HG G26.1	<b>T. Zambelli</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>			
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>		3 hrs	Thu	15-16	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
				Fri	08-10		
252-0535-00 U	Advanced Machine Learning		2 hrs	Wed	14-16 16-18	CAB G61 CAB G61	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
				Thu	16-18	ML F34	
				Fri	14-16	CAB G61	
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>		4 hrs				<b>J. M. Buhmann, C. Cotrini Jimenez</b>
<b>263-4640-00L</b>	<b>Network Security</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U+3A</b>			
263-4640-00 V	Network Security		2 hrs	Tue	10-12	HG E1.2	<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
263-4640-00 U	Network Security		2 hrs	Thu	16-18	CAB G61	<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>		3 hrs				<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
401-3055-64 V	Algebraic Methods in Combinatorics		2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>
401-3055-64 U	Algebraic Methods in Combinatorics		1 hrs	Mon	12-13 13-14	ML F34 ML F34	<b>B. Sudakov</b>
<b>227-0147-10L</b>	<b>VLSI 3: Full-Custom Digital Circuit Design</b>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>			
227-0147-10 V	VLSI 3: Full-Custom Digital Circuit Design <i>Permission from lecturers required for all students</i>		2 hrs	Mon	10-12	ETZ E8	<b>C. Studer, O. Castañeda Fernández</b>
227-0147-10 U	VLSI 3: Full-Custom Digital Circuit Design <i>Permission from lecturers required for all students</i>		3 hrs	Thu	13-16	ETZ G91	<b>C. Studer, O. Castañeda Fernández</b>

## ►► Computers and Networks

The core courses and specialisation courses below are a selection for students who wish to specialise in the area of "Computers and Networks", see <https://www.ee.ethz.ch/studies/main-master/areas-of-specialisation.html>.

The individual study plan is subject to the tutor's approval.

## ►►► Core Courses

These core courses are particularly recommended for the field of "Computers and Networks". You may choose core courses from other fields in agreement with your tutor.

A minimum of 24 credits must be obtained from core courses during the MSc EEIT.

## ►►►► Foundation Core Courses

Fundamentals at bachelor level, for master students who need to strengthen or refresh their background in the area.

Number	Title	Type	ECTS	Hours				Lecturers	
227-0102-00L	Discrete Event Systems	W	6 credits	4G					R. Jacob, L. Vanbever, R. Wattenhofer
227-0102-00 G	Diskrete Ereignissysteme			4 hrs	Thu	14-16 16-18	HG D7.2 HG D7.2		
227-0121-00L	Communication Systems	W	6 credits	4G					A. Wittneben
227-0121-00 G	Kommunikationssysteme			4 hrs	Wed	08-12	ML F39		
227-0124-00L	Embedded Systems	W	6 credits	4G					L. Thiele, M. Magno
227-0124-00 G	Embedded Systems			4 hrs	Mon	14-16	ETF C1		
	Exercises in groups.				Wed	16-18	ETZ D61.1 ETZ D96.1		
					Fri	16-18	ETF E1 ETZ D61.1 ETZ D96.1		

## ►►►► Advanced Core Courses

Advanced core courses bring students to gain in-depth knowledge of the chosen specialization. They are MSc level only.

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-2210-00L</b>	<b>Computer Architecture</b>	<b>W</b>	<b>8 credits</b>	<b>6G+1A</b>				<b>O. Mutlu</b>
227-2210-00 G	Computer Architecture <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			6 hrs	Thu Fri	13-16 13-16	HG D16.2 HG D16.2	
227-2210-00 A	Computer Architecture			1 hrs				
<b>227-0575-00L</b>	<b>Advanced Topics in Communication Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				<b>L. Vanbever</b> <b>L. Vanbever</b>
227-0575-00 V	Advanced Topics in Communication Networks			2 hrs	Tue	14-16	ML E12	
227-0575-00 U	Advanced Topics in Communication Networks			2 hrs	Tue	16-18	ML E12	
<b>227-0579-00L</b>	<b>Hardware Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				<b>K. Razavi</b>  <b>K. Razavi</b> <b>K. Razavi</b>
227-0579-00 V	Hardware Security <i>An informal meeting is planned for Friday, 17 December between 5 - 7 pm. The exact room will be announced later. Please note that the classes of October 5 and October 19 take place from 08:00 - 11:00 instead of 08:00 - 10:00 in ETZ G71.2.</i>			2 hrs	Tue	08-10	HG E41	
227-0579-00 U	Hardware Security			2 hrs	Thu	10-12	IFW A32.1	
227-0579-00 A	Hardware Security <i>Project Work, no fixed presence required.</i>			2 hrs				
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				<b>S. Capkun, A. Perrig</b> <b>S. Capkun, A. Perrig</b>
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	
252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>			2 hrs	Thu	14-16 16-18	HG D3.2 CAB G11	
252-1414-00 A	System Security			2 hrs				<b>S. Capkun, A. Perrig</b>
<b>263-4640-00L</b>	<b>Network Security</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U+3A</b>				<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b> <b>A. Perrig, S. Frei, M. Legner, K. Paterson</b> <b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
263-4640-00 V	Network Security			2 hrs	Tue	10-12	HG E1.2	
263-4640-00 U	Network Security			2 hrs	Thu	16-18	CAB G61	
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>			3 hrs				

## ►►► Specialisation Courses

These specialisation courses are particularly recommended for the area of "Computers and Networks", but you are free to choose courses from any other field in agreement with your tutor.

A minimum of 40 credits must be obtained from specialisation courses during the Master's Programme.

Number	Title	Type	ECTS	Hours				Lecturers	
227-0101-00L	Discrete-Time and Statistical Signal Processing	W	6 credits	4G					H.-A. Loeliger
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18	HG F3		
227-0103-00L	Control Systems	W	6 credits	2V+2U					F. Dörfler
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60		
227-0103-00 U	Regelsysteme			2 hrs	Tue 21.09.	10-12 12-14	CHN C14 CHN C14		
227-0116-00L	VLSI 1: HDL based design for FPGAs	W	6 credits	5G					F. K. Gürkaynak, L. Benini
227-0116-00 G	VLSI 1: HDL based design for FPGAs			5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1		
227-0377-10L	Physics of Failure and Reliability of Electronic Devices and Systems	W	3 credits	2V					I. Shorubalko, M. Held
227-0377-10 V	Physics of Failure and Reliability of Electronic Devices and Systems			2 hrs	Thu	14-16	ETZ K91		
227-0447-00L	Image Analysis and Computer Vision	W	6 credits	3V+1U					

227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1	<b>L. Van Gool</b> , E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool</b> , E. Konukoglu, F. Yu
<b>227-0555-00L</b>	<b>Distributed Systems</b> <i>Enrolled students will be notified by e-mail about the lecture start.</i>	<b>W</b>	<b>4 credits</b>	<b>3G+1A</b>				
227-0555-00 G	Distributed Systems <i>Groups are selected in myStudies. The lecture start will be notified by e-mail.</i>			3 hrs	Mon/2 Fri/2 Fri	10-12 10-12 14-16	CAB G61 CAB G61 CAB G57	<b>R. Wattenhofer</b>
227-0555-00 A	Distributed Systems			1 hrs				<b>R. Wattenhofer</b>
<b>151-0593-00L</b>	<b>Embedded Control Systems</b>	<b>W</b>	<b>4 credits</b>	<b>6G</b>				
151-0593-00 G	Embedded Control Systems <i>This two-week block course takes place daily (13-17.09.2021 &amp; 20-24.09.2021) and is comprised of</i> - Lectures: 8-12 h - Exercises: 13-17 h			80s hrs	13.09. 13.09.- 17.09. 13.09.- 24.09. 20.09. 13-17 21.09. 08-12 22.09. 08-12 15-17 23.09. 08-12 24.09. 08-12	08-10 08-12 13-17 13-17 08-12 08-12 08-12 08-12 08-12 08-12 08-12 08-12 08-12 08-12	ML H44 HG G26.5 ML J44.1 HG F26.3 ML J44.1 HG F26.3 HG F26.3 ML F39 HG F26.3 LEE E101	<b>J. S. Freudenberg</b> , <b>M. Schmid Daners</b>
<b>252-1411-00L</b>	<b>Security of Wireless Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>				
252-1411-00 V	Security of Wireless Networks			2 hrs	Tue	14-16	ML F34	<b>S. Capkun</b> , K. Kostinen
252-1411-00 U	Security of Wireless Networks			1 hrs	Fri/2w	14-16	CAB E87.2	<b>S. Capkun</b> , K. Kostinen
252-1411-00 A	Security of Wireless Networks <i>includes a semester long project</i>			2 hrs				<b>S. Capkun</b> , K. Kostinen
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
401-3055-64 V	Algebraic Methods in Combinatorics			2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>
401-3055-64 U	Algebraic Methods in Combinatorics			1 hrs	Mon	12-13 13-14	ML F34 ML F34	<b>B. Sudakov</b>

## ►► Electronics and Photonics

The core courses and specialisation courses below are a selection for students who wish to specialise in the area of "Electronics and Photonics", see <https://www.ee.ethz.ch/studies/main-master/areas-of-specialisation.html>.

The individual study plan is subject to the tutor's approval.

## ►►► Core Courses

These core courses are particularly recommended for the field of "Electronics and Photonics". You may choose core courses from other fields in agreement with your tutor.

A minimum of 24 credits must be obtained from core courses during the MSc EEIT.

## ►►►► Foundation Core Courses

Fundamentals at bachelor level, for master students who need to strengthen or refresh their background in the area.

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0110-00L</b>	<b>Electromagnetic Waves: Materials, Effects, and Antennas</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0110-00 V	Electromagnetic Waves: Materials, Effects, and Antennas			2 hrs	Wed	14-16	ETZ E8		<b>U. Koch</b>
227-0110-00 U	Electromagnetic Waves: Materials, Effects, and Antennas			2 hrs	Wed	16-18	ETZ E8		<b>U. Koch</b>
<b>227-0116-00L</b>	<b>VLSI 1: HDL based design for FPGAs</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0116-00 G	VLSI 1: HDL based design for FPGAs			5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1		<b>F. K. Gürkaynak</b> , L. Benini
<b>227-0145-00L</b>	<b>Solid State Electronics and Optics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0145-00 G	Solid State Electronics and Optics			4 hrs	Mon Thu	14-16 14-16	ML F38 LFW C4		<b>N. Yazdani</b> , V. Wood
<b>227-0166-00L</b>	<b>Analog Integrated Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0166-00 V	Analog Integrated Circuits			2 hrs	Fri	10-12	ETZ E6		<b>T. Jang</b>
227-0166-00 U	Analog Integrated Circuits <i>Some of the exercise lessons will take place in computer room ETZ D61.1.</i> <i>To be announced during the course lessons.</i>			2 hrs	Fri	14-16	ETZ E6		<b>T. Jang</b>

## ►►►► Advanced Core Courses

Advanced core courses bring students to gain in-depth knowledge of the chosen specialization. They are MSc level only.

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0146-00L</b>	<b>Analog-to-Digital Converters</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0146-00 V	Analog-to-Digital Converters <i>Does not take place this semester.</i>			2 hrs					
227-0146-00 U	Analog-to-Digital Converters <i>Does not take place this semester.</i>			2 hrs					
<b>227-0148-00L</b>	<b>VLSI III: Test and Fabrication of VLSI</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					

<b>Circuits</b>								
227-0148-00 G	VLSI III: Test and Fabrication of VLSI Circuits <i>Does not take place this semester. Will be offered in spring 2022 as "227-0148-00L VLSI4: Practical VLSI: measurement and testing"</i>		4 hrs					L. Benini
<b>227-0301-00L</b>	<b>Optical Communication Fundamentals</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1P</b>				
227-0301-00 V	Optical Communication Fundamentals		2 hrs	Tue	14-16	ETZ K91		<b>J. Leuthold</b>
227-0301-00 U	Optical Communication Fundamentals		1 hrs	Tue	16-17	ETZ K91		<b>J. Leuthold</b>
227-0301-00 P	Optical Communication Fundamentals		1 hrs	Tue	17-18	ETZ K91		<b>J. Leuthold</b>
<b>227-0655-00L</b>	<b>Nonlinear Optics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0655-00 V	Nonlinear Optics <i>Does not take place this semester.</i>		2 hrs					<b>J. Leuthold</b>
227-0655-00 U	Nonlinear Optics <i>Does not take place this semester.</i>		2 hrs					<b>J. Leuthold</b>
<b>227-0663-00L</b>	<b>Nano-Optics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0663-00 V	Nano-Optics <i>Does not take place this semester.</i>		2 hrs					<b>M. Frimmer</b>
227-0663-00 U	Nano-Optics <i>Does not take place this semester.</i>		2 hrs					<b>M. Frimmer</b>
<b>227-0147-10L</b>	<b>VLSI 3: Full-Custom Digital Circuit Design</b>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>				
227-0147-10 V	VLSI 3: Full-Custom Digital Circuit Design <i>Permission from lecturers required for all students</i>		2 hrs	Mon	10-12	ETZ E8		<b>C. Studer,</b> O. Castañeda Fernández
227-0147-10 U	VLSI 3: Full-Custom Digital Circuit Design <i>Permission from lecturers required for all students</i>		3 hrs	Thu	13-16	ETZ G91		<b>C. Studer,</b> O. Castañeda Fernández

### ►►► Specialisation Courses

*These specialisation courses are particularly recommended for the area of "Electronics and Photonics", but you are free to choose courses from any other field in agreement with your tutor.*

*A minimum of 40 credits must be obtained from specialisation courses during the Master's Programme.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0121-00L</b>	<b>Communication Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0121-00 G	Kommunikationssysteme			4 hrs	Wed	08-12	ML F39		<b>A. Wittneben</b>
<b>227-0155-00L</b>	<b>Machine Learning on Microcontrollers</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
	<i>Registration in this class requires the permission of the instructors. Class size will be limited to 25. Preference is given to students in the MSc EEIT.</i>								
227-0155-00 G	Machine Learning on Microcontrollers ■ <i>Permission from lecturers required for all students</i>			3 hrs	Mon 27.09.	13-16 13-16	LFO C13 ETZ K63		<b>M. Magno,</b> L. Benini
<b>227-0157-00L</b>	<b>Semiconductor Devices: Physical Bases and Simulation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0157-00 G	Semiconductor Devices: Physical Bases and Simulation <i>Falls alle Hörende es wünschen, kann die Vorlesung auch auf Deutsch gehalten werden.</i>			3 hrs	Mon	09-12	ETZ G91		<b>A. Schenk,</b> C. I. Roman
<b>227-0166-00L</b>	<b>Analog Integrated Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0166-00 V	Analog Integrated Circuits			2 hrs	Fri	10-12	ETZ E6		<b>T. Jang</b>
227-0166-00 U	Analog Integrated Circuits <i>Some of the exercise lessons will take place in computer room ETZ D61.1. To be announced during the course lessons.</i>			2 hrs	Fri	14-16	ETZ E6		<b>T. Jang</b>
<b>227-0377-10L</b>	<b>Physics of Failure and Reliability of Electronic Devices and Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
227-0377-10 V	Physics of Failure and Reliability of Electronic Devices and Systems			2 hrs	Thu	14-16	ETZ K91		<b>I. Shorubalko,</b> M. Held
<b>227-0468-00L</b>	<b>Analog Signal Processing and Filtering</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
	<i>Suitable for Master Students as well as Doctoral Students.</i>								
227-0468-00 V	Analog Signal Processing and Filtering			2 hrs	Wed	08-10	CHN E46		<b>H. Schmid</b>
227-0468-00 U	Analog Signal Processing and Filtering			2 hrs	Wed	10-12	CHN E46		<b>H. Schmid</b>
<b>227-0615-00L</b>	<b>Simulation of Photovoltaic Devices - From Materials to Modules</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
227-0615-00 G	Simulation of Photovoltaic Devices - From Materials to Modules			2 hrs	Thu	14-16	LEE C104		<b>U. Aeberhard</b>
<b>227-0617-00L</b>	<b>Solar Cells</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0617-00 G	Solar Cells			3 hrs	Wed	09-12	HG D7.2		<b>A. N. Tiwari,</b> R. Carron, Y. Romanyuk
<b>227-0618-00L</b>	<b>Modeling, Characterization and Reliability of Power Semiconductors</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0618-00 G	Modeling, Characterization and Reliability of Power Semiconductors			4 hrs	Wed	12-16	ETZ F91		<b>M. P. M. Ciappa</b>
<b>227-0619-00L</b>	<b>Charge Transport in Energy Conversion and Storage Devices</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					



227-0619-00 V	Charge Transport in Energy Conversion and Storage Devices		2 hrs	Fri	10-12	CAB G11	<b>C. Battaglia</b>
227-0619-00 U	Charge Transport in Energy Conversion and Storage Devices		2 hrs	Fri	12-14	CAB G11	<b>C. Battaglia</b>
				24.09.	12-14	ML E12	
<b>227-0652-00L</b>	<b>Maxwell, Einstein, and the GPS</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>			
227-0652-00 V	Maxwell, Einstein, and the GPS		2 hrs	Fri	10-12	ETZ E9	<b>T. Zambelli</b>
227-0652-00 U	Maxwell, Einstein, and the GPS		2 hrs	Wed	08-10	HG G26.1	<b>T. Zambelli</b>
<b>227-0653-00L</b>	<b>Electromagnetic Precision Measurements and Opto-Mechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>			
227-0653-00 V	Electromagnetic Precision Measurements and Opto-Mechanics <i>The course will take place online until further notice.</i>		2 hrs	Fri	09-11	ML H34.3	<b>M. Frimmer</b>
227-0653-00 U	Electromagnetic Precision Measurements and Opto-Mechanics <i>The course will take place online until further notice.</i>		1 hrs	Fri	11-12	ML H34.3	<b>M. Frimmer</b>
<b>227-0659-00L</b>	<b>Integrated Systems Seminar</b>	<b>W</b>	<b>1 credit</b>	<b>1S</b>			
227-0659-00 S	Integrated Systems Seminar		1 hrs	Mon	18-20	ETZ J91	<b>A. Schenk</b>
<b>227-0665-00L</b>	<b>Battery Integration Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>			
	<i>Priority given to Electrical and Mechanical Engineering students</i>						
	<i>Students are required to have attended one of the following courses:</i>						
	<i>- 227-0664-00L Technology and Policy of Electrical Energy Storage</i>						
	<i>- 529-0440-00L Physical Electrochemistry and Electrocatalysis</i>						
	<i>- 529-0191-01L Renewable Energy Technologies II, Energy Storage and Conversion</i>						
	<i>- 529-0659-00L Electrochemistry (Exception for PhD students).</i>						
227-0665-00 V	Battery Integration Engineering		2 hrs	Mon	13-15	NO D11	<b>T. J. Patey</b>
227-0665-00 U	Battery Integration Engineering		1 hrs	Mon	15-16	NO D11	<b>T. J. Patey</b>
<b>227-1033-00L</b>	<b>Neuromorphic Engineering I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>			
	<i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>						
	<i>Information for UZH students:</i>						
	<i>Enrolment to this course unit only possible at ETH. No enrolment to module INI404 at UZH.</i>						
	<i>Please mind the ETH enrolment deadlines for UZH students:</i>						
	<i><a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>						
227-1033-00 V	Neuromorphic Engineering I <i>Permission from lecturers required for all students</i> <i>**together with University of Zurich**</i> <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>		2 hrs	Mon	14-16	ON LINE	<b>T. Delbrück, G. Indiveri, S.-C. Liu</b>
227-1033-00 U	Neuromorphic Engineering I <i>Permission from lecturers required for all students</i> <i>**together with University of Zurich**</i>		3 hrs	by appt.			<b>T. Delbrück, G. Indiveri, S.-C. Liu</b>
	<i>Dates by arrangement.</i>						
<b>227-2037-00L</b>	<b>Physical Modelling and Simulation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-2037-00 G	Physical Modelling and Simulation		4 hrs	Thu	08-12	ETZ E6	<b>J. Smajic</b>
<b>151-0601-00L</b>	<b>Theory of Robotics and Mechatronics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		3 hrs	Mon	08-10 10-11	HG D1.2 ML E12	<b>P. Korba, S. Stoeter</b>
<b>151-0605-00L</b>	<b>Nanosystems</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>			
151-0605-00 G	Nanosystems <i>Lecture: Thursday 10-13. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i> <i>Exercises: will take place in the laboratories.</i>		4 hrs	Thu	10-13	ML F40	<b>A. Stemmer</b>
<b>151-0620-00L</b>	<b>Embedded MEMS Lab</b>	<b>W</b>	<b>5 credits</b>	<b>3P</b>			

151-0620-00 P	Embedded MEMS Lab - First part of the compulsory introductory lecture: Monday 27.09.2021 from 13:15h to 18h (venue: tbd) - Second part of the compulsory introductory lecture: Monday 04.10.2021 from 13:15h to 18h (venue: tbd) - Practical portion of the course in the cleanrooms of CLA: 7 consecutive Mondays from 13:00 (exact) to ~18:30 during the Semester. Starting days for groups are staggered. - Attendance is required at all meetings of the course.	45s hrs	Mon	13-14	ML J34.1 ML J34.3 ML J37.1 CLA G2 ML H43 ML H43	C. Hierold, S. Blunier, M. Haluska
151-0911-00L	Introduction to Plasmonics	W	4 credits	2V+1U		
151-0911-00 V	Introduction to Plasmonics Does not take place this semester. Will be offered again in HS22.			2 hrs		D. J. Norris
151-0911-00 U	Introduction to Plasmonics Does not take place this semester. Will be offered again in HS22.			1 hrs		D. J. Norris
327-2132-00L	Multifunctional Ferroic Materials: Growth and Characterisation	W	2 credits	2G		
327-2132-00 G	Multifunctional Ferroic Materials: Growth and Characterization			2 hrs	Mon 14-16	HCI H8.1 M. Trassin
363-0389-00L	Technology and Innovation Management	W	3 credits	2G		
363-0389-00 G	Technology and Innovation Management The lecture takes place in classroom, online via zoom and recorded.			2 hrs	Mon 14-16 27.09. 14-16	NO C60 HG D1.2 S. Brusoni, A. Zeijen
401-3055-64L	Algebraic Methods in Combinatorics	W	6 credits	2V+1U		
401-3055-64 V	Algebraic Methods in Combinatorics			2 hrs	Wed 10-12	IFW A36 B. Sudakov
401-3055-64 U	Algebraic Methods in Combinatorics			1 hrs	Mon 12-13 13-14	ML F34 ML F34 B. Sudakov

## ►► Energy and Power Electronics

The core courses and specialisation courses below are a selection for students who wish to specialise in the area of "Energy and Power Electronics", see <https://www.ee.ethz.ch/studies/main-master/areas-of-specialisation.html>.

The individual study plan is subject to the tutor's approval.

## ►►► Core Courses

These core courses are particularly recommended for the field of "Energy and Power Electronics". You may choose core courses from other fields in agreement with your tutor.

A minimum of 24 credits must be obtained from core courses during the MSc EEIT.

## ►►►► Foundation Core Courses

Fundamentals at bachelor level, for master students who need to strengthen or refresh their background in the area.

Number	Title	Type	ECTS	Hours				Lecturers
227-0113-00L	Power Electronics	W	6 credits	4G				
227-0113-00 G	Leistungselektronik			4 hrs	Thu	14-18	HG E1.2	J. W. Kolar
227-0517-10L	Fundamentals of Electric Machines	W	6 credits	4G				
227-0517-10 G	Fundamentals of Electric Machines			4 hrs	Thu	08-10 10-12	HG D5.2 HG D5.2	D. Bortis

## ►►►► Advanced Core Courses

Advanced core courses bring students to gain in-depth knowledge of the chosen specialization. They are MSc level only.

Number	Title	Type	ECTS	Hours				Lecturers
227-0117-00L	High Voltage Engineering	W	6 credits	4G				
227-0117-00 G	High Voltage Engineering			4 hrs	Thu	14-18	ETZ E7	C. Franck, U. Straumann
227-0247-00L	Power Electronic Systems I	W	6 credits	4G				
227-0247-00 G	Power Electronic Systems I			4 hrs	Tue	14-16 16-18	HG D5.2 HG D5.2	J. Biela, F. Krismer
227-0526-00L	Power System Analysis	W	6 credits	4G				
227-0526-00 G	Power System Analysis The language of instruction will be chosen by the students in the first lecture (English or German)			4 hrs	Wed	14-18	ETZ E6	G. Hug

## ►►► Specialisation Courses

These specialisation courses are particularly recommended for the area of "Energy and Power Electronics", but you are free to choose courses from any other field in agreement with your tutor.

A minimum of 40 credits must be obtained from specialisation courses during the Master's Programme.

Number	Title	Type	ECTS	Hours				Lecturers
227-0101-00L	Discrete-Time and Statistical Signal Processing	W	6 credits	4G				
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18	HG F3	H.-A. Loeliger
227-0103-00L	Control Systems	W	6 credits	2V+2U				
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60	F. Dörfler
227-0103-00 U	Regelsysteme			2 hrs	Tue	10-12 21.09. 12-14	CHN C14 CHN C14	F. Dörfler
227-0121-00L	Communication Systems	W	6 credits	4G				

227-0121-00 G	Kommunikationssysteme			4 hrs	Wed	08-12	ML F39	<b>A. Wittneben</b>
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
227-0225-00 G	Linear System Theory			5 hrs	Mon Wed 22.09.	09-12 10-12 10-12	IFW A36 ETZ E6 HG D1.1	<b>A. Iannelli</b>
<b>227-0517-10L</b>	<b>Fundamentals of Electric Machines</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0517-10 G	Fundamentals of Electric Machines			4 hrs	Thu	08-10 10-12	HG D5.2 HG D5.2	<b>D. Bortis</b>
<b>227-0523-00L</b>	<b>Railway Systems I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0523-00 G	Eisenbahn-Systemtechnik I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>			4 hrs	Fri	08-12	LFW C1	<b>M. Meyer</b>
<b>227-0536-00L</b>	<b>Multiphysics Simulations for Power Systems</b> <i>This course is defined so and planned to be an addition to the module "227-0537-00L Technology of Electric Power System Components". However, the students who are familiar with the fundamentals of electromagnetic fields could attend only this course without its 227-0537-00-complement.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
227-0536-00 V	Multiphysics Simulations for Power Systems			2 hrs	Mon	10-12	HG E22	<b>J. Smajic</b>
227-0536-00 U	Multiphysics Simulations for Power Systems			2 hrs	Mon	08-10	HG E22	<b>J. Smajic</b>
<b>227-0567-00L</b>	<b>Design of Power Electronic Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0567-00 G	Design of Power Electronic Systems			4 hrs	Fri	14-18	HG D5.2	<b>F. Krismer</b>
<b>227-0618-00L</b>	<b>Modeling, Characterization and Reliability of Power Semiconductors</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0618-00 G	Modeling, Characterization and Reliability of Power Semiconductors			4 hrs	Wed	12-16	ETZ F91	<b>M. P. M. Ciappa</b>
<b>227-0697-00L</b>	<b>Industrial Process Control</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0697-00 G	Industrial Process Control <i>Upon special arrangement, on some afternoons the lecture will be extended. Single lectures may be given online.</i>			3 hrs	Tue	13-16	ETZ G91	<b>A. Horch, M. Mercangöz</b>
<b>227-0731-00L</b>	<b>Power Market I - Portfolio and Risk Management</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0731-00 G	Power Market I - Portfolio and Risk Management			4 hrs	Tue	08-12	HG D7.1	<b>D. Reichelt, G. A. Koepfel</b>
<b>227-0759-00L</b>	<b>International Business Management for Engineers</b> <i>This course will be offered for the last time in fall 2021</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
227-0759-00 V	International Business Management for Engineers <i>The lecture will be held in three blocks each of them on a Saturday (starts on September 18, 2021). Each block will focus on one of the three main topics of the course. Between the blocks the students will work on specific case studies to deepen the subject matter. About two weeks after the third block a written examination will be conducted.</i>			24s hrs				<b>W. Hofbauer</b>
<i>This course will be offered for the last time in fall 2021</i>								

## ►► Systems and Control

The core courses and specialisation courses below are a selection for students who wish to specialise in the area of "Systems and Control", see <https://www.ee.ethz.ch/studies/main-master/areas-of-specialisation.html>.

The individual study plan is subject to the tutor's approval.

## ►►► Core Courses

These core courses are particularly recommended for the field of "Systems and Control". You may choose core courses from other fields in agreement with your tutor.

A minimum of 24 credits must be obtained from core courses during the MSc EEIT.

## ►►►► Foundation Core Courses

Fundamentals at bachelor level, for master students who need to strengthen or refresh their background in the area.

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0103-00L</b>	<b>Control Systems</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60		<b>F. Dörfler</b>
227-0103-00 U	Regelsysteme			2 hrs	Tue 21.09.	10-12 12-14	CHN C14 CHN C14		<b>F. Dörfler</b>

## ►►►► Advanced Core Courses

Advanced core courses bring students to gain in-depth knowledge of the chosen specialization. They are MSc level only.

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					

227-0225-00 G	Linear System Theory			5 hrs	Mon Wed 22.09.	09-12 10-12 10-12	IFW A36 ETZ E6 HG D1.1	<b>A. Iannelli</b>
<b>227-0697-00L</b>	<b>Industrial Process Control</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0697-00 G	Industrial Process Control <i>Upon special arrangement, on some afternoons the lecture will be extended. Single lectures may be given online.</i>			3 hrs	Tue	13-16	ETZ G91	<b>A. Horch, M. Mercangöz</b>
<b>151-0371-00L</b>	<b>Advanced Model Predictive Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
	<i>Number of participants limited to 40.</i>							
151-0371-00 V	Advanced Model Predictive Control <i>The lecture will take place on 30.09.21 in HG D 7.2.</i>			2 hrs	Thu 30.09.	10-12 10-12	HG D1.1 HG D7.2	<b>M. Zeilinger</b> , A. Carron, L. Hewing, J. Köhler
151-0371-00 U	Advanced Model Predictive Control <i>The lecture will take place on 30.09.21 in HG D 7.2.</i>			1 hrs	Thu 30.09.	12-13 12-13	HG D1.1 HG D7.2	<b>M. Zeilinger</b> , A. Carron, L. Hewing, J. Köhler
<b>151-0563-01L</b>	<b>Dynamic Programming and Optimal Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG F1	<b>R. D'Andrea</b>
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>			1 hrs	Wed 29.09.	16-17 16-17	CAB G51 HG F1 ML E12	<b>R. D'Andrea</b>

## ►►► Specialisation Courses

*These specialisation courses are particularly recommended for the area of "Systems and Control", but you are free to choose courses from any other field in agreement with your tutor.*

*A minimum of 40 credits must be obtained from specialisation courses during the Master's Programme.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0102-00L</b>	<b>Discrete Event Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0102-00 G	Diskrete Ereignissysteme			4 hrs	Thu	14-16 16-18	HG D7.2 HG D7.2		<b>R. Jacob, L. Vanbever, R. Wattenhofer</b>
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1		<b>L. Van Gool</b> , E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2		<b>L. Van Gool</b> , E. Konukoglu, F. Yu
<b>227-0526-00L</b>	<b>Power System Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0526-00 G	Power System Analysis <i>The language of instruction will be chosen by the students in the first lecture (English or German)</i>			4 hrs	Wed	14-18	ETZ E6		<b>G. Hug</b>
<b>227-0531-00L</b>	<b>Control of Power-Electronics-Dominated Power Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2V+2U</b>					
227-0531-00 V	Control of Power-Electronics-Dominated Power Systems <i>This course starts on September 28, 2021.</i>			2 hrs	Tue	08-10	CAB G52		<b>E. Prieto Araujo</b>
227-0531-00 U	Control of Power-Electronics-Dominated Power Systems <i>This course starts on September 28, 2021.</i>			2 hrs	Tue	10-12	CAB G52		<b>E. Prieto Araujo</b>
<b>227-0689-00L</b>	<b>System Identification</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
227-0689-00 V	System Identification			2 hrs	Wed	10-12	HG D7.1		<b>R. Smith</b>
227-0689-00 U	System Identification			1 hrs	Wed	12-13	ETZ D61.1 HG D7.1		<b>R. Smith</b>
<b>227-0945-00L</b>	<b>Cell and Molecular Biology for Engineers I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>This course is part I of a two-semester course.</i>								
227-0945-00 G	Cell and Molecular Biology for Engineers I			2 hrs	Thu	10-12	LFW C5		<b>C. Frei</b>
<b>151-0532-00L</b>	<b>Nonlinear Dynamics and Chaos I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0532-00 V	Nonlinear Dynamics and Chaos I			2 hrs	Wed	10-12	LFW B1		<b>G. Haller</b>
151-0532-00 U	Nonlinear Dynamics and Chaos I			2 hrs	Tue	16-18	ML F39		<b>G. Haller</b>
<b>151-0573-00L</b>	<b>System Modeling</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0573-00 V	System Modeling			2 hrs	Wed	08-10	HG E7		<b>L. Guzzella</b>
151-0573-00 U	System Modeling <i>Groups are selected in myStudies. Die Übungen finden ab der zweiten Semesterwoche statt. Di 13-14, Di 17-18 oder Do 8-9 gemäss Gruppeneinteilung.</i>			1 hrs	Tue	13-14 17-18	LFV E41 LFW C5 CHN G42 HG D7.1 HG E1.1 LFV E41		<b>L. Guzzella</b>
<b>151-0601-00L</b>	<b>Theory of Robotics and Mechatronics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	08-10 10-11	HG D1.2 ML E12		<b>P. Korba, S. Stoeter</b>
<b>151-0563-01L</b>	<b>Dynamic Programming and Optimal Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					

151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Wed	14-16	HG F1	<b>R. D'Andrea</b>			
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>	1 hrs	Wed	16-17	CAB G51 HG F1 ML E12	<b>R. D'Andrea</b>			
			29.09.	16-17					
<b>376-1219-00L</b>	<b>Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions</b>	<b>W</b>				<b>3 credits</b>	<b>2V</b>		
376-1219-00 V	Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions	2 hrs	Tue	08-10	CAB G11	<b>R. Riener, O. Lamberg</b>			
<b>401-0647-00L</b>	<b>Introduction to Mathematical Optimization</b>	<b>W</b>				<b>5 credits</b>	<b>2V+1U</b>		
401-0647-00 V	Introduction to Mathematical Optimization	2 hrs	Tue	16-18	HG F5	<b>D. Adjashvili</b>			
401-0647-00 U	Introduction to Mathematical Optimization <i>Groups are selected in myStudies. Wed 12-13 or Wed 16-17</i>	1 hrs	Wed	12-13 16-17	HG D1.2 IFW A36 ON LINE	<b>D. Adjashvili</b>			
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>				<b>11 credits</b>	<b>4V+2U</b>		
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>	4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	<b>R. Zenklusen</b>			
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>	2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>			
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>				<b>6 credits</b>	<b>3V+2U</b>		
636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>	3 hrs	Wed	14-17	HG D3.2	<b>J. Stelling</b>			
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>	2 hrs	Fri	10-12	HG D1.2	<b>J. Stelling</b>			
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>				<b>6 credits</b>	<b>2V+1U</b>		
401-3055-64 V	Algebraic Methods in Combinatorics	2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>			
401-3055-64 U	Algebraic Methods in Combinatorics	1 hrs	Mon	12-13 13-14	ML F34 ML F34	<b>B. Sudakov</b>			

## ►► Signal Processing and Machine Learning

The core courses and specialisation courses below are a selection for students who wish to specialise in the area of "Signal Processing and Machine Learning", see <https://www.ee.ethz.ch/studies/main-master/areas-of-specialisation.html>.

The individual study plan is subject to the tutor's approval.

## ►►► Core Courses

These core courses are particularly recommended for the field of "Signal Processing and Machine Learning". You may choose core courses from other fields in agreement with your tutor.

A minimum of 24 credits must be obtained from core courses during the MSc EEIT.

## ►►►► Foundation Core Courses

Fundamentals at bachelor level, for master students who need to strengthen or refresh their background in the area.

Number	Title	Type	ECTS	Hours	Lecturers				
<b>227-0101-00L</b>	<b>Discrete-Time and Statistical Signal Processing</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18	HG F3	<b>H.-A. Loeliger</b>	
<b>227-0105-00L</b>	<b>Introduction to Estimation and Machine Learning</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0105-00 G	Introduction to Estimation and Machine Learning			4 hrs	Fri	14-18	ETF C1	<b>H.-A. Loeliger</b>	

## ►►►► Advanced Core Courses

Advanced core courses bring students to gain in-depth knowledge of the chosen specialization. They are MSc level only.

Number	Title	Type	ECTS	Hours	Lecturers				
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
227-0423-00 V	Neural Network Theory			2 hrs	Tue	10-12	HG F5	<b>H. Bölcskei</b>	
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on: <a href="https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html">https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html</a>. The reserved room is meant for those students who want to follow the course from the campus.</i>			1 hrs	Tue	12-13	HG F5	<b>H. Bölcskei</b>	

<b>227-0427-00L</b>	<b>Signal Analysis, Models, and Machine Learning</b> <i>This course was replaced by "Introduction to Estimation and Machine Learning" and "Advanced Signal Analysis, Modeling, and Machine Learning".</i>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0427-00 G	Signal Analysis, Models, and Machine Learning <i>Does not take place this semester.</i>			4 hrs					<b>H.-A. Loeliger</b>
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1	<b>L. Van Gool</b> , E. Konukoglu, F. Yu	
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool</b> , E. Konukoglu, F. Yu	
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>					
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu	15-16	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann</b> , C. Cotrini Jimenez	
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed	14-16 16-18	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann</b> , C. Cotrini Jimenez	
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs	Fri	14-16		<b>J. M. Buhmann</b> , C. Cotrini Jimenez	
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
263-3210-00 V	Deep Learning			3 hrs	Wed Thu	13-14 14-16	ML D28 ML D28	<b>F. Perez Cruz</b> , A. Lucchi	
263-3210-00 U	Deep Learning			2 hrs	Mon Wed	16-18 16-18	HG G5 ML D28	<b>F. Perez Cruz</b> , A. Lucchi	
263-3210-00 A	Deep Learning			2 hrs				<b>F. Perez Cruz</b> , A. Lucchi	
<b>401-4944-20L</b>	<b>Mathematics of Data Science</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-4944-20 G	Mathematics of Data Science			4 hrs	Thu Fri	12-14 10-12	HG G3 HG G5	<b>A. Bandeira</b>	

## ►►► Specialisation Courses

*These specialisation courses are particularly recommended for the area of "Signal Processing and Machine Learning", but you are free to choose courses from any other field in agreement with your tutor.*

*A minimum of 40 credits must be obtained from specialisation courses during the MSc EEIT.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0116-00L</b>	<b>VLSI 1: HDL based design for FPGAs</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0116-00 G	VLSI 1: HDL based design for FPGAs			5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1	<b>F. K. Gürkaynak</b> , L. Benini	
<b>227-0155-00L</b>	<b>Machine Learning on Microcontrollers</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to 25. Preference is given to students in the MSc EEIT.</i>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
227-0155-00 G	Machine Learning on Microcontrollers ■ <i>Permission from lecturers required for all students</i>			3 hrs	Mon	13-16 27.09.	LFO C13 ETZ K63	<b>M. Magno</b> , L. Benini	
<b>227-0121-00L</b>	<b>Communication Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0121-00 G	Kommunikationssysteme			4 hrs	Wed	08-12	ML F39	<b>A. Wittneben</b>	
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0225-00 G	Linear System Theory			5 hrs	Mon Wed	09-12 10-12 22.09.	IFW A36 ETZ E6 HG D1.1	<b>A. Iannelli</b>	
<b>227-0417-00L</b>	<b>Information Theory I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0417-00 G	Information Theory I			4 hrs	Wed	14-18	ETF C1	<b>A. Lapidoth</b>	
<b>227-0421-00L</b>	<b>Deep Learning in Artificial and Biological Neuronal Networks</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0421-00 G	Deep Learning in Artificial and Biological Neuronal Networks			3 hrs	Wed	09-12	ML F34	<b>B. Grewe</b>	
<b>227-0477-00L</b>	<b>Acoustics I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0477-00 G	Acoustics I			4 hrs	Mon	14-18	ETZ E7	<b>K. Heutschi</b>	
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>			3 hrs	Fri	10-12 13-14	ETA F5 ETF E1 ETA F5 ETF E1	<b>A. Krause</b>	
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>			2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>	
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs				<b>A. Krause</b>	
<b>263-5255-00L</b>	<b>Foundations of Reinforcement Learning</b>	<b>W</b>	<b>5 credits</b>	<b>2V+2A</b>					

<i>Number of participants limited to 190.</i>								
263-5255-00 V	Foundations of Reinforcement Learning			2 hrs	Fri	14-16	CAB G11	<b>N. He</b>
263-5255-00 A	Foundations of Reinforcement Learning			2 hrs				<b>N. He</b>
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
401-3055-64 V	Algebraic Methods in Combinatorics			2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>
401-3055-64 U	Algebraic Methods in Combinatorics			1 hrs	Mon	12-13 13-14	ML F34 ML F34	<b>B. Sudakov</b>
<b>401-3621-00L</b>	<b>Fundamentals of Mathematical Statistics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				
401-3621-00 V	Fundamentals of Mathematical Statistics			4 hrs	Tue Wed	08-10 10-12	HG E5 HG E7	<b>S. van de Geer</b>
401-3621-00 U	Fundamentals of Mathematical Statistics			1 hrs	Tue	12-13	HG D7.1 HG E7	<b>S. van de Geer</b>
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>				
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	<b>R. Zenklusen</b>
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>			2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>

## ►► Electives

*This is only a short selection. Other courses from the ETH course catalogue may be chosen in agreement with your tutor.*

*As an alternative to the elective courses, students may do a second semester project or an internship in industry. Please consult your tutor.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0371-00L</b>	<b>Advanced Model Predictive Control</b> <i>Number of participants limited to 40.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0371-00 V	Advanced Model Predictive Control <i>The lecture will take place on 30.09.21 in HG D 7.2.</i>			2 hrs	Thu	10-12	HG D1.1		<b>M. Zeilinger</b> , A. Carron,
151-0371-00 U	Advanced Model Predictive Control <i>The lecture will take place on 30.09.21 in HG D 7.2.</i>			1 hrs	Thu	12-13	HG D1.1		<b>M. Zeilinger</b> , A. Carron,
					30.09.	10-12	HG D7.2		L. Hewing, J. Köhler
					30.09.	12-13	HG D1.1		<b>M. Zeilinger</b> , A. Carron,
						12-13	HG D7.2		L. Hewing, J. Köhler
<b>363-0511-00L</b>	<b>Managerial Economics</b> <i>Not for MSc students belonging to D-MTEC!</i>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
363-0511-00 V	Managerial Economics			3 hrs	Tue Wed	18-19 08-10	HG F5 HG G3		<b>V. Lohmann</b> , P. Egger,
									M. Köthenbürger
<b>351-0778-00L</b>	<b>Discovering Management</b> <i>Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercises) 351-0778-01.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
351-0778-00 G	Discovering Management <i>Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Fri	08-11	HG E1.1		<b>B. Clarysse</b> , S. Brusoni,
									E. Fleisch, G. Grote,
									V. Hoffmann, T. Netland,
									Y. R. Shrestha, P. Tinguely,
									L. P. T. Vandeweghe
<b>351-0778-01L</b>	<b>Discovering Management (Exercises)</b> <i>Complementary exercises for the module Discovering Management.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>					
	<i>Prerequisite: Participation and successful completion of the module Discovering Management (351-0778-00L) is mandatory.</i>								
351-0778-01 U	Discovering Management (Exercises)			1 hrs	Fri	11-12	HG E1.1		<b>B. Clarysse</b> ,
									L. P. T. Vandeweghe
<b>363-0790-00L</b>	<b>Technology Entrepreneurship</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
363-0790-00 V	Technology Entrepreneurship <i>The lecture takes place online via (livestreaming or) zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	18-20	HG E5		<b>F. Hacklin</b>
<b>363-1065-00L</b>	<b>Design Thinking: Human-Centred Solutions to Real World Challenges</b>	<b>W</b>	<b>5 credits</b>	<b>5G</b>					
363-1065-00 G	Design Thinking: Human-Centred Solutions to Real World Challenges <i>Does not take place this semester. From FS22 in the spring semester.</i>			5 hrs					S. Brusoni
<b>363-1082-00L</b>	<b>Enabling Entrepreneurship: From Science to Startup</b> <i>Students should provide a brief overview (unto 1 page) of their business ideas that they would like to commercialise through the course. If they do not have an idea, they are required to provide a motivation letter stating why they would like to do this elective. If you are unsure about the readiness of your idea or technology to be</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					

converted into a startup, please drop me a line to schedule a call or meeting to discuss.

The total number of students will be limited to 40. It is preferable that the students already form teams of at least two persons, where both the team-members would like to do the course. The names of the team-members should be provided together with the business idea or the motivation letter submitted by the students.

The students should submit the necessary information until September 13 and apply to [anilsethi@ethz.ch](mailto:anilsethi@ethz.ch)

363-1082-00 V	Enabling Entrepreneurship: From Science to Startup	2 hrs	Mon	16-18	HG E33.1	<b>A. Sethi</b>
<b>851-0703-00L</b>	<b>Introduction to Law</b> <i>Students who have attended or will attend the lecture "Introduction to Law for Civil Engineering and Architecture" (851-0703-03L) or "Introduction to Law" (851-0708-00L), cannot register for this course unit.</i>  <i>Particularly suitable for students of D-ARCH, D-MAVT, D-MATL</i>	<b>W</b>		<b>2 credits</b>	<b>2V</b>	
851-0703-00 V	Grundzüge des Rechts	2 hrs	Mon	14-16	HG E1.2	<b>O. Streiff Gnöppf</b>
<b>851-0735-10L</b>	<b>Business Law</b> <i>Number of participants limited to 100</i>  <i>Particularly suitable for students of D-ITET, D-MAVT</i>	<b>W</b>		<b>2 credits</b>	<b>2V</b>	
851-0735-10 V	Wirtschaftsrecht	2 hrs	Thu	14-16	HG D1.2	<b>P. Peyrot</b>
<b>851-0738-00L</b>	<b>Intellectual Property: Introduction</b> <i>Particularly suitable for students of D-CHAB, D-INFK, D-ITET, D-MAVT, D-MATL, D-MTEC</i>	<b>W</b>		<b>2 credits</b>	<b>2V</b>	
851-0738-00 V	Geistiges Eigentum: Eine Einführung <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online (via Zoom) statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>	2 hrs	Fri	10-12	HG D7.1	<b>M. Schweizer</b>
<b>851-0738-01L</b>	<b>The Role of Intellectual Property in the Engineering and Technical Sector</b> <i>Particularly suitable for students of D-BAUG, D-BIOL, D-BSSE, D-CHAB, D-ITET, D-MAVT</i>	<b>W</b>		<b>2 credits</b>	<b>2V</b>	
851-0738-01 V	Die Rolle des Geistigen Eigentums im Ingenieurwesen und den technischen Wissenschaften	28s hrs	Fri/2w	14-18	LFW B1	<b>K. Houshang Pour Islam</b>

## ►► Industrial Internship

Number	Title	Type	ECTS	Hours	Lecturers
<b>227-1550-10L</b>	<b>Internship in Industry</b> <i>Only for Electrical Engineering and Information Technology MSc (Programme Regulations 2018).</i>	<b>W</b>	<b>12 credits</b>		
227-1550-10 P	Internship in Industry ■				external organisers

## ► Master Studies (Programme Regulations 2008)

### ►► Major Courses

A total of 42 CP must be achieved during the Master Programme. The individual study plan is subject to the tutor's approval.

### ►►► Communication

### ►►►► Core Subjects

These core subjects are particularly recommended for the field of "Communication".

Number	Title	Type	ECTS	Hours	Lecturers
<b>227-0301-00L</b>	<b>Optical Communication Fundamentals</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1P</b>	
227-0301-00 V	Optical Communication Fundamentals			2 hrs	Tue 14-16 ETZ K91 <b>J. Leuthold</b>
227-0301-00 U	Optical Communication Fundamentals			1 hrs	Tue 16-17 ETZ K91 <b>J. Leuthold</b>
227-0301-00 P	Optical Communication Fundamentals			1 hrs	Tue 17-18 ETZ K91 <b>J. Leuthold</b>
<b>227-0417-00L</b>	<b>Information Theory I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>	
227-0417-00 G	Information Theory I			4 hrs	Wed 14-18 ETF C1 <b>A. Lapidoth</b>
<b>227-0427-00L</b>	<b>Signal Analysis, Models, and Machine Learning</b> <i>This course was replaced by "Introduction to Estimation and Machine Learning" and "Advanced Signal Analysis, Modeling, and Machine Learning".</i>	<b>W</b>	<b>6 credits</b>	<b>4G</b>	



227-0427-00 G	Signal Analysis, Models, and Machine Learning <i>Does not take place this semester.</i>		4 hrs						H.-A. Loeliger
<b>227-0439-00L</b>	<b>Wireless Access Systems</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0439-00 V	Wireless Access Systems <i>Does not take place this semester.</i> <i>This lecture will be moved to the spring semester. Next date spring 2022.</i>		2 hrs						A. Wittneben
227-0439-00 U	Wireless Access Systems <i>Does not take place this semester.</i> <i>This lecture will be moved to the spring semester. Next date spring 2022.</i>		2 hrs						A. Wittneben

### ►►►► Recommended Subjects

*These courses are recommended, but you are free to choose courses from any other special field. Please consult your tutor.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0102-00L</b>	<b>Discrete Event Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0102-00 G	Diskrete Ereignissysteme			4 hrs	Thu	14-16 16-18	HG D7.2 HG D7.2		R. Jacob, L. Vanbever, R. Wattenhofer
<b>227-0103-00L</b>	<b>Control Systems</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60		F. Dörfler
227-0103-00 U	Regelsysteme			2 hrs	Tue	10-12 21.09.	CHN C14 CHN C14		F. Dörfler
<b>227-0116-00L</b>	<b>VLSI 1: HDL based design for FPGAs</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0116-00 G	VLSI 1: HDL based design for FPGAs			5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1		F. K. Gürkaynak, L. Benini
<b>227-0148-00L</b>	<b>VLSI III: Test and Fabrication of VLSI Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0148-00 G	VLSI III: Test and Fabrication of VLSI Circuits <i>Does not take place this semester.</i> <i>Will be offered in spring 2022 as "227-0148-00L VLSI4: Practical VLSI: measurement and testing"</i>			4 hrs					L. Benini
<b>227-0166-00L</b>	<b>Analog Integrated Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0166-00 V	Analog Integrated Circuits			2 hrs	Fri	10-12	ETZ E6		T. Jang
227-0166-00 U	Analog Integrated Circuits <i>Some of the exercise lessons will take place in computer room ETZ D61.1.</i> <i>To be announced during the course lessons.</i>			2 hrs	Fri	14-16	ETZ E6		T. Jang
<b>227-0301-00L</b>	<b>Optical Communication Fundamentals</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1P</b>					
227-0301-00 V	Optical Communication Fundamentals			2 hrs	Tue	14-16	ETZ K91		J. Leuthold
227-0301-00 U	Optical Communication Fundamentals			1 hrs	Tue	16-17	ETZ K91		J. Leuthold
227-0301-00 P	Optical Communication Fundamentals			1 hrs	Tue	17-18	ETZ K91		J. Leuthold
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
227-0423-00 V	Neural Network Theory			2 hrs	Tue	10-12	HG F5		H. Bölcskei
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on:</i> <i><a href="https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html">https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html</a>.</i> <i>The reserved room is meant for those students who want to follow the course from the campus.</i>			1 hrs	Tue	12-13	HG F5		H. Bölcskei
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1		L. Van Gool, E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2		L. Van Gool, E. Konukoglu, F. Yu
<b>227-0468-00L</b>	<b>Analog Signal Processing and Filtering</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
	<i>Suitable for Master Students as well as Doctoral Students.</i>								
227-0468-00 V	Analog Signal Processing and Filtering			2 hrs	Wed	08-10	CHN E46		H. Schmid
227-0468-00 U	Analog Signal Processing and Filtering			2 hrs	Wed	10-12	CHN E46		H. Schmid
<b>227-0477-00L</b>	<b>Acoustics I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0477-00 G	Acoustics I			4 hrs	Mon	14-18	ETZ E7		K. Heutschi
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>					
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3</i> <i>Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu	15-16	ETA F5 ETF E1		J. M. Buhmann, C. Cotrini Jimenez
					Fri	08-10	HG F1 HG F3		
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed	14-16 16-18	CAB G61 CAB G61		J. M. Buhmann, C. Cotrini Jimenez
					Thu	16-18	ML F34		
					Fri	14-16	CAB G61		
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs					J. M. Buhmann, C. Cotrini Jimenez
<b>263-4640-00L</b>	<b>Network Security</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U+3A</b>					

263-4640-00 V	Network Security		2 hrs	Tue	10-12	HG E1.2	<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson
263-4640-00 U	Network Security		2 hrs	Thu	16-18	CAB G61	<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>		3 hrs				<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
401-3055-64 V	Algebraic Methods in Combinatorics		2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>
401-3055-64 U	Algebraic Methods in Combinatorics		1 hrs	Mon	12-13 13-14	ML F34 ML F34	<b>B. Sudakov</b>
<b>227-0147-10L</b>	<b>VLSI 3: Full-Custom Digital Circuit Design</b>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>			
227-0147-10 V	VLSI 3: Full-Custom Digital Circuit Design <i>Permission from lecturers required for all students</i>		2 hrs	Mon	10-12	ETZ E8	<b>C. Studer</b> , O. Castañeda Fernández
227-0147-10 U	VLSI 3: Full-Custom Digital Circuit Design <i>Permission from lecturers required for all students</i>		3 hrs	Thu	13-16	ETZ G91	<b>C. Studer</b> , O. Castañeda Fernández

## ►►► Computers and Networks

### ►►►► Core Subjects

*These core subjects are particularly recommended for the field of "Computers and Networks".*

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-2210-00L</b>	<b>Computer Architecture</b>	<b>W</b>	<b>8 credits</b>	<b>6G+1A</b>				
227-2210-00 G	Computer Architecture <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			6 hrs	Thu Fri	13-16 13-16	HG D16.2 HG D16.2	<b>O. Mutlu</b>
227-2210-00 A	Computer Architecture			1 hrs				<b>O. Mutlu</b>
<b>227-0575-00L</b>	<b>Advanced Topics in Communication Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0575-00 V	Advanced Topics in Communication Networks			2 hrs	Tue	14-16	ML E12	<b>L. Vanbever</b>
227-0575-00 U	Advanced Topics in Communication Networks			2 hrs	Tue	16-18	ML E12	<b>L. Vanbever</b>
<b>227-0579-00L</b>	<b>Hardware Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
227-0579-00 V	Hardware Security <i>An informal meeting is planned for Friday, 17 December between 5 - 7 pm. The exact room will be announced later. Please note that the classes of October 5 and October 19 take place from 08:00 - 11:00 instead of 08:00 - 10:00 in ETZ G71.2.</i>			2 hrs	Tue	08-10	HG E41	<b>K. Razavi</b>
227-0579-00 U	Hardware Security			2 hrs	Thu	10-12	IFW A32.1	<b>K. Razavi</b>
227-0579-00 A	Hardware Security <i>Project Work, no fixed presence required.</i>			2 hrs				<b>K. Razavi</b>
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	<b>S. Capkun</b> , <b>A. Perrig</b>
252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>			2 hrs	Thu	14-16 16-18	HG D3.2 CAB G11	<b>S. Capkun</b> , <b>A. Perrig</b>
252-1414-00 A	System Security			2 hrs				<b>S. Capkun</b> , <b>A. Perrig</b>
<b>263-4640-00L</b>	<b>Network Security</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U+3A</b>				
263-4640-00 V	Network Security			2 hrs	Tue	10-12	HG E1.2	<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson
263-4640-00 U	Network Security			2 hrs	Thu	16-18	CAB G61	<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>			3 hrs				<b>A. Perrig</b> , S. Frei, M. Legner, K. Paterson

### ►►►► Recommended Subjects

*These courses are recommended, but you are free to choose courses from any other special field. Please consult your tutor.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0101-00L</b>	<b>Discrete-Time and Statistical Signal Processing</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18	HG F3	<b>H.-A. Loeliger</b>
<b>227-0103-00L</b>	<b>Control Systems</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60	<b>F. Dörfler</b>
227-0103-00 U	Regelsysteme			2 hrs	Tue	10-12 21.09.	CHN C14 CHN C14	<b>F. Dörfler</b>
<b>227-0116-00L</b>	<b>VLSI 1: HDL based design for FPGAs</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
227-0116-00 G	VLSI 1: HDL based design for FPGAs			5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1	<b>F. K. Gürkaynak</b> , L. Benini
<b>227-0377-10L</b>	<b>Physics of Failure and Reliability of Electronic Devices and Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
227-0377-10 V	Physics of Failure and Reliability of Electronic Devices and Systems			2 hrs	Thu	14-16	ETZ K91	<b>I. Shorubalko</b> , M. Held
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>				

227-0447-00 V	Image Analysis and Computer Vision		3 hrs	Thu	14-17	HG F1	L. Van Gool, E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision		1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	L. Van Gool, E. Konukoglu, F. Yu
<b>227-0555-00L</b>	<b>Distributed Systems</b> <i>Enrolled students will be notified by e-mail about the lecture start.</i>	<b>W</b>	<b>4 credits</b>	<b>3G+1A</b>			
227-0555-00 G	Distributed Systems <i>Groups are selected in myStudies. The lecture start will be notified by e-mail.</i>		3 hrs	Mon/2 Fri/2	10-12 10-12	CAB G61 CAB G61 CAB G57	R. Wattenhofer
227-0555-00 A	Distributed Systems		1 hrs				R. Wattenhofer
<b>227-2210-00L</b>	<b>Computer Architecture</b>	<b>W</b>	<b>8 credits</b>	<b>6G+1A</b>			
227-2210-00 G	Computer Architecture <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		6 hrs	Thu Fri	13-16 13-16	HG D16.2 HG D16.2	O. Mutlu
227-2210-00 A	Computer Architecture		1 hrs				O. Mutlu
<b>151-0593-00L</b>	<b>Embedded Control Systems</b>	<b>W</b>	<b>4 credits</b>	<b>6G</b>			
151-0593-00 G	Embedded Control Systems <i>This two-week block course takes place daily (13-17.09.2021 &amp; 20-24.09.2021) and is comprised of</i> <i>- Lectures: 8-12 h</i> <i>- Exercises: 13-17 h</i>		80s hrs	13.09. 13.09.- 17.09. 13.09.- 24.09. 20.09. 21.09. 22.09. 23.09. 24.09.	08-10 08-12 13-17 13-17 08-12 13-17 08-12 08-12 15-17 08-12 08-12	ML H44 HG G26.5 ML J44.1 HG F26.3 ML J44.1 HG F26.3 HG F26.3 ML F39 HG F26.3 LEE E101	J. S. Freudenberg, M. Schmid Daners
<b>252-1411-00L</b>	<b>Security of Wireless Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>			
252-1411-00 V	Security of Wireless Networks		2 hrs	Tue	14-16	ML F34	S. Capkun, K. Kostianen
252-1411-00 U	Security of Wireless Networks		1 hrs	Fri/2w	14-16	CAB E87.2	S. Capkun, K. Kostianen
252-1411-00 A	Security of Wireless Networks <i>includes a semester long project</i>		2 hrs				S. Capkun, K. Kostianen
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
401-3055-64 V	Algebraic Methods in Combinatorics		2 hrs	Wed	10-12	IFW A36	B. Sudakov
401-3055-64 U	Algebraic Methods in Combinatorics		1 hrs	Mon	12-13 13-14	ML F34 ML F34	B. Sudakov

## ▶▶▶ Electronics and Photonics

## ▶▶▶▶ Core Subjects

*These core subjects are particularly recommended for the field of "Electronics and Photonics".*

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0146-00L</b>	<b>Analog-to-Digital Converters</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0146-00 V	Analog-to-Digital Converters <i>Does not take place this semester.</i>			2 hrs					
227-0146-00 U	Analog-to-Digital Converters <i>Does not take place this semester.</i>			2 hrs					
<b>227-0148-00L</b>	<b>VLSI III: Test and Fabrication of VLSI Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0148-00 G	VLSI III: Test and Fabrication of VLSI Circuits <i>Does not take place this semester.</i> <i>Will be offered in spring 2022 as "227-0148-00L VLSI4: Practical VLSI: measurement and testing"</i>			4 hrs					L. Benini
<b>227-0301-00L</b>	<b>Optical Communication Fundamentals</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1P</b>					
227-0301-00 V	Optical Communication Fundamentals			2 hrs	Tue	14-16	ETZ K91	<b>J. Leuthold</b>	
227-0301-00 U	Optical Communication Fundamentals			1 hrs	Tue	16-17	ETZ K91	<b>J. Leuthold</b>	
227-0301-00 P	Optical Communication Fundamentals			1 hrs	Tue	17-18	ETZ K91	<b>J. Leuthold</b>	
<b>227-0663-00L</b>	<b>Nano-Optics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0663-00 V	Nano-Optics <i>Does not take place this semester.</i>			2 hrs					<b>M. Frimmer</b>
227-0663-00 U	Nano-Optics <i>Does not take place this semester.</i>			2 hrs					<b>M. Frimmer</b>
<b>227-0655-00L</b>	<b>Nonlinear Optics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0655-00 V	Nonlinear Optics <i>Does not take place this semester.</i>			2 hrs					<b>J. Leuthold</b>
227-0655-00 U	Nonlinear Optics <i>Does not take place this semester.</i>			2 hrs					<b>J. Leuthold</b>
<b>227-1033-00L</b>	<b>Neuromorphic Engineering I</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots.</i> <i>Preference is given to students that require this class as part of their major.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>					

Information for UZH students:  
Enrolment to this course unit only possible  
at ETH. No enrolment to module INI404 at  
UZH.

Please mind the ETH enrolment deadlines  
for UZH students:

<https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html>

227-1033-00 V	Neuromorphic Engineering I Permission from lecturers required for all students **together with University of Zurich** The lecturers will communicate the exact lesson times of ONLINE courses.	2 hrs	Mon	14-16	ON LINE	T. Delbrück, G. Indiveri, S.-C. Liu
227-1033-00 U	Neuromorphic Engineering I Permission from lecturers required for all students **together with University of Zurich**	3 hrs	by appt.			T. Delbrück, G. Indiveri, S.-C. Liu

Dates by arrangement.

<b>227-0147-10L</b>	<b>VLSI 3: Full-Custom Digital Circuit Design</b>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>				
227-0147-10 V	VLSI 3: Full-Custom Digital Circuit Design Permission from lecturers required for all students			2 hrs	Mon	10-12	ETZ E8	C. Studer, O. Castañeda Fernández
227-0147-10 U	VLSI 3: Full-Custom Digital Circuit Design Permission from lecturers required for all students			3 hrs	Thu	13-16	ETZ G91	C. Studer, O. Castañeda Fernández

## ▶▶▶▶ Recommended Subjects

These courses are recommended, but you are free to choose courses from any other special field. Please consult your tutor.

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0121-00L</b>	<b>Communication Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0121-00 G	Kommunikationssysteme			4 hrs	Wed	08-12	ML F39	A. Wittneben
<b>227-0155-00L</b>	<b>Machine Learning on Microcontrollers</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
	Registration in this class requires the permission of the instructors. Class size will be limited to 25. Preference is given to students in the MSc EEIT.							
227-0155-00 G	Machine Learning on Microcontrollers ■ Permission from lecturers required for all students			3 hrs	Mon 27.09.	13-16	LFO C13 ETZ K63	M. Magno, L. Benini
<b>227-0157-00L</b>	<b>Semiconductor Devices: Physical Bases and Simulation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0157-00 G	Semiconductor Devices: Physical Bases and Simulation Falls alle Hörende es wünschen, kann die Vorlesung auch auf Deutsch gehalten werden.			3 hrs	Mon	09-12	ETZ G91	A. Schenk, C. I. Roman
<b>227-0166-00L</b>	<b>Analog Integrated Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0166-00 V	Analog Integrated Circuits			2 hrs	Fri	10-12	ETZ E6	T. Jang
227-0166-00 U	Analog Integrated Circuits Some of the exercise lessons will take place in computer room ETZ D61.1. To be announced during the course lessons.			2 hrs	Fri	14-16	ETZ E6	T. Jang
<b>227-0377-10L</b>	<b>Physics of Failure and Reliability of Electronic Devices and Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
227-0377-10 V	Physics of Failure and Reliability of Electronic Devices and Systems			2 hrs	Thu	14-16	ETZ K91	I. Shorubalko, M. Held
<b>227-0468-00L</b>	<b>Analog Signal Processing and Filtering</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
	Suitable for Master Students as well as Doctoral Students.							
227-0468-00 V	Analog Signal Processing and Filtering			2 hrs	Wed	08-10	CHN E46	H. Schmid
227-0468-00 U	Analog Signal Processing and Filtering			2 hrs	Wed	10-12	CHN E46	H. Schmid
<b>227-0615-00L</b>	<b>Simulation of Photovoltaic Devices - From Materials to Modules</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
227-0615-00 G	Simulation of Photovoltaic Devices - From Materials to Modules			2 hrs	Thu	14-16	LEE C104	U. Aeberhard
<b>227-0617-00L</b>	<b>Solar Cells</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0617-00 G	Solar Cells			3 hrs	Wed	09-12	HG D7.2	A. N. Tiwari, R. Carron, Y. Romanyuk
<b>227-0618-00L</b>	<b>Modeling, Characterization and Reliability of Power Semiconductors</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0618-00 G	Modeling, Characterization and Reliability of Power Semiconductors			4 hrs	Wed	12-16	ETZ F91	M. P. M. Ciappa
<b>227-0619-00L</b>	<b>Charge Transport in Energy Conversion and Storage Devices</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0619-00 V	Charge Transport in Energy Conversion and Storage Devices			2 hrs	Fri	10-12	CAB G11	C. Battaglia
227-0619-00 U	Charge Transport in Energy Conversion and Storage Devices			2 hrs	Fri 24.09.	12-14	CAB G11 ML E12	C. Battaglia
<b>227-0653-00L</b>	<b>Electromagnetic Precision</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				

Measurements and Opto-Mechanics								
227-0653-00 V	Electromagnetic Precision Measurements and Opto-Mechanics <i>The course will take place online until further notice.</i>	2 hrs	Fri	09-11	ML H34.3	M. Frimmer		
227-0653-00 U	Electromagnetic Precision Measurements and Opto-Mechanics <i>The course will take place online until further notice.</i>	1 hrs	Fri	11-12	ML H34.3	M. Frimmer		
227-0659-00L	Integrated Systems Seminar	W	1 credit	1S				
227-0659-00 S	Integrated Systems Seminar			1 hrs	Mon	18-20	ETZ J91	A. Schenk
227-0665-00L	Battery Integration Engineering <i>Priority given to Electrical and Mechanical Engineering students</i>	W	3 credits	2V+1U				
<i>Students are required to have attended one of the following courses:</i> - 227-0664-00L Technology and Policy of Electrical Energy Storage - 529-0440-00L Physical Electrochemistry and Electrocatalysis - 529-0191-01L Renewable Energy Technologies II, Energy Storage and Conversion - 529-0659-00L Electrochemistry (Exception for PhD students).								
227-0665-00 V	Battery Integration Engineering			2 hrs	Mon	13-15	NO D11	T. J. Patey
227-0665-00 U	Battery Integration Engineering			1 hrs	Mon	15-16	NO D11	T. J. Patey
227-2037-00L	Physical Modelling and Simulation	W	6 credits	4G				
227-2037-00 G	Physical Modelling and Simulation			4 hrs	Thu	08-12	ETZ E6	J. Smajic
151-0601-00L	Theory of Robotics and Mechatronics	W	4 credits	3G				
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	08-10 10-11	HG D1.2 ML E12	P. Korba, S. Stoeter
151-0605-00L	Nanosystems	W	4 credits	4G				
151-0605-00 G	Nanosystems <i>Lecture: Thursday 10-13. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Exercises: will take place in the laboratories.</i>			4 hrs	Thu	10-13	ML F40	A. Stemmer
151-0620-00L	Embedded MEMS Lab	W	5 credits	3P				
151-0620-00 P	Embedded MEMS Lab - First part of the compulsory introductory lecture: Monday 27.09.2021 from 13:15h to 18h (venue: tbd) - Second part of the compulsory introductory lecture: Monday 04.10.2021 from 13:15h to 18h (venue: tbd) - Practical portion of the course in the cleanrooms of CLA: 7 consecutive Mondays from 13:00 (exact) to ~18:30 during the Semester. Starting days for groups are staggered. - Attendance is required at all meetings of the course.			45s hrs	Mon	13-14  13-17 27.09. 13-18 04.10. 13-18	ML J34.1 ML J34.3 ML J37.1 CLA G2 ML H43 ML H43	C. Hierold, S. Blunier, M. Haluska
151-0911-00L	Introduction to Plasmonics	W	4 credits	2V+1U				
151-0911-00 V	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>			2 hrs	D. J. Norris			
151-0911-00 U	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>			1 hrs	D. J. Norris			
327-2132-00L	Multifunctional Ferroic Materials: Growth and Characterisation	W	2 credits	2G				
327-2132-00 G	Multifunctional Ferroic Materials: Growth and Characterization			2 hrs	Mon	14-16	HCI H8.1	M. Trassin
363-0389-00L	Technology and Innovation Management	W	3 credits	2G				
363-0389-00 G	Technology and Innovation Management <i>The lecture takes place in classroom, online via zoom and recorded.</i>			2 hrs	Mon 27.09.	14-16 14-16	NO C60 HG D1.2	S. Brusoni, A. Zeijen
401-3055-64L	Algebraic Methods in Combinatorics	W	6 credits	2V+1U				
401-3055-64 V	Algebraic Methods in Combinatorics			2 hrs	Wed	10-12	IFW A36	B. Sudakov
401-3055-64 U	Algebraic Methods in Combinatorics			1 hrs	Mon	12-13 13-14	ML F34 ML F34	B. Sudakov

## ▶▶▶ Energy and Power Electronics

### ▶▶▶▶ Core Subjects

*These core subjects are particularly recommended for the field of "Energy and Power Electronics".*

Number	Title	Type	ECTS	Hours	Lecturers			
<b>227-0117-00L</b>	<b>High Voltage Engineering</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0117-00 G	High Voltage Engineering			4 hrs	Thu	14-18	ETZ E7	<b>C. Franck, U. Straumann</b>
<b>227-0247-00L</b>	<b>Power Electronic Systems I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0247-00 G	Power Electronic Systems I			4 hrs	Tue	14-16 16-18	HG D5.2 HG D5.2	<b>J. Biela, F. Krismer</b>
<b>227-0526-00L</b>	<b>Power System Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				

227-0526-00 G	Power System Analysis <i>The language of instruction will be chosen by the students in the first lecture (English or German)</i>	4 hrs	Wed	14-18	ETZ E6	<b>G. Hug</b>
---------------	-------------------------------------------------------------------------------------------------------------------------------------	-------	-----	-------	--------	---------------

## ►►►► Recommended Subjects

*These courses are recommended, but you are free to choose courses from any other special field. Please consult your tutor.*

Number	Title	Type	ECTS	Hours	Lecturers	
<b>227-0101-00L</b>	<b>Discrete-Time and Statistical Signal Processing</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18 HG F3 <b>H.-A. Loeliger</b>
<b>227-0121-00L</b>	<b>Communication Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
227-0121-00 G	Kommunikationssysteme			4 hrs	Wed	08-12 ML F39 <b>A. Wittneben</b>
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>		
227-0225-00 G	Linear System Theory			5 hrs	Mon Wed 22.09.	09-12 10-12 10-12 IFW A36 ETZ E6 HG D1.1 <b>A. Iannelli</b>
<b>227-0517-10L</b>	<b>Fundamentals of Electric Machines</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
227-0517-10 G	Fundamentals of Electric Machines			4 hrs	Thu	08-10 10-12 HG D5.2 HG D5.2 <b>D. Bortis</b>
<b>227-0523-00L</b>	<b>Railway Systems I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
227-0523-00 G	Eisenbahn-Systemtechnik I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>			4 hrs	Fri	08-12 LFW C1 <b>M. Meyer</b>
<b>227-0536-00L</b>	<b>Multiphysics Simulations for Power Systems</b> <i>This course is defined so and planned to be an addition to the module "227-0537-00L Technology of Electric Power System Components". However, the students who are familiar with the fundamentals of electromagnetic fields could attend only this course without its 227-0537-00-complement.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
227-0536-00 V	Multiphysics Simulations for Power Systems			2 hrs	Mon	10-12 HG E22 <b>J. Smajic</b>
227-0536-00 U	Multiphysics Simulations for Power Systems			2 hrs	Mon	08-10 HG E22 <b>J. Smajic</b>
<b>227-0567-00L</b>	<b>Design of Power Electronic Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
227-0567-00 G	Design of Power Electronic Systems			4 hrs	Fri	14-18 HG D5.2 <b>F. Krismer</b>
<b>227-0618-00L</b>	<b>Modeling, Characterization and Reliability of Power Semiconductors</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
227-0618-00 G	Modeling, Characterization and Reliability of Power Semiconductors			4 hrs	Wed	12-16 ETZ F91 <b>M. P. M. Ciappa</b>
<b>227-0697-00L</b>	<b>Industrial Process Control</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
227-0697-00 G	Industrial Process Control <i>Upon special arrangement, on some afternoons the lecture will be extended. Single lectures may be given online.</i>			3 hrs	Tue	13-16 ETZ G91 <b>A. Horch, M. Mercangöz</b>
<b>227-0731-00L</b>	<b>Power Market I - Portfolio and Risk Management</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
227-0731-00 G	Power Market I - Portfolio and Risk Management			4 hrs	Tue	08-12 HG D7.1 <b>D. Reichelt, G. A. Koeppel</b>
<b>227-0759-00L</b>	<b>International Business Management for Engineers</b> <i>This course will be offered for the last time in fall 2021</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
227-0759-00 V	International Business Management for Engineers <i>The lecture will be held in three blocks each of them on a Saturday (starts on September 18, 2021). Each block will focus on one of the three main topics of the course. Between the blocks the students will work on specific case studies to deepen the subject matter. About two weeks after the third block a written examination will be conducted.</i>  <i>This course will be offered for the last time in fall 2021</i>			24s hrs		<b>W. Hofbauer</b>

## ►►► Systems and Control

### ►►►► Core Subjects

*These core subjects are particularly recommended for the field of "Systems and Control".*

Number	Title	Type	ECTS	Hours	Lecturers	
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>		
227-0225-00 G	Linear System Theory			5 hrs	Mon Wed 22.09.	09-12 10-12 10-12 IFW A36 ETZ E6 HG D1.1 <b>A. Iannelli</b>
<b>227-0697-00L</b>	<b>Industrial Process Control</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		

227-0697-00 G Industrial Process Control 3 hrs Tue 13-16 ETZ G91 **A. Horch, M. Mercangöz**  
*Upon special arrangement, on some afternoons the lecture will be extended. Single lectures may be given online.*

**151-0563-01L Dynamic Programming and Optimal Control W 4 credits 2V+1U**

151-0563-01 V Dynamic Programming and Optimal Control 2 hrs Wed 14-16 HG F1 **R. D'Andrea**  
*The lecture will start in the 2nd week of Semester.  
 Online lecture: This lecture will primarily take place online.  
 Reserved rooms will remain blocked on campus for students to follow the course from there.*

151-0563-01 U Dynamic Programming and Optimal Control 1 hrs Wed 16-17 CAB G51 **R. D'Andrea**  
*The exercise will start in the 2nd week of Semester.*  
 29.09. 16-17 HG F1 ML E12

## ▶▶▶▶ Recommended Subjects

*These courses are recommended, but you are free to choose courses from any other special field. Please consult your tutor.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0102-00L Discrete Event Systems W 6 credits 4G</b>									
227-0102-00 G	Diskrete Ereignissysteme			4 hrs	Thu	14-16 16-18	HG D7.2 HG D7.2		<b>R. Jacob, L. Vanbever, R. Wattenhofer</b>
<b>227-0447-00L Image Analysis and Computer Vision W 6 credits 3V+1U</b>									
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1		<b>L. Van Gool, E. Konukoglu, F. Yu</b>
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2		<b>L. Van Gool, E. Konukoglu, F. Yu</b>
<b>227-0526-00L Power System Analysis W 6 credits 4G</b>									
227-0526-00 G	Power System Analysis <i>The language of instruction will be chosen by the students in the first lecture (English or German)</i>			4 hrs	Wed	14-18	ETZ E6		<b>G. Hug</b>
<b>227-0531-00L Control of Power-Electronics-Dominated Power Systems W 3 credits 2V+2U</b>									
227-0531-00 V	Control of Power-Electronics-Dominated Power Systems <i>This course starts on September 28, 2021.</i>			2 hrs	Tue	08-10	CAB G52		<b>E. Prieto Araujo</b>
227-0531-00 U	Control of Power-Electronics-Dominated Power Systems <i>This course starts on September 28, 2021.</i>			2 hrs	Tue	10-12	CAB G52		<b>E. Prieto Araujo</b>
<b>227-0689-00L System Identification W 4 credits 2V+1U</b>									
227-0689-00 V	System Identification			2 hrs	Wed	10-12	HG D7.1		<b>R. Smith</b>
227-0689-00 U	System Identification			1 hrs	Wed	12-13	ETZ D61.1 HG D7.1		<b>R. Smith</b>
<b>227-0945-00L Cell and Molecular Biology for Engineers I W 3 credits 2G</b>									
	<i>This course is part I of a two-semester course.</i>								
227-0945-00 G	Cell and Molecular Biology for Engineers I			2 hrs	Thu	10-12	LFW C5		<b>C. Frei</b>
<b>151-0532-00L Nonlinear Dynamics and Chaos I W 4 credits 2V+2U</b>									
151-0532-00 V	Nonlinear Dynamics and Chaos I			2 hrs	Wed	10-12	LFW B1		<b>G. Haller</b>
151-0532-00 U	Nonlinear Dynamics and Chaos I			2 hrs	Tue	16-18	ML F39		<b>G. Haller</b>
<b>151-0573-00L System Modeling W 4 credits 2V+1U</b>									
151-0573-00 V	System Modeling			2 hrs	Wed	08-10	HG E7		<b>L. Guzzella</b>
151-0573-00 U	System Modeling <i>Groups are selected in myStudies. Die Übungen finden ab der zweiten Semesterwoche statt. Di 13-14, Di 17-18 oder Do 8-9 gemäss Gruppeneinteilung.</i>			1 hrs	Tue	13-14	LFV E41 LFW C5 CHN G42 HG D7.1 HG E1.1 LFV E41		<b>L. Guzzella</b>
					Thu	08-09			
<b>151-0601-00L Theory of Robotics and Mechatronics W 4 credits 3G</b>									
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	08-10 10-11	HG D1.2 ML E12		<b>P. Korba, S. Stoeter</b>
<b>151-0563-01L Dynamic Programming and Optimal Control W 4 credits 2V+1U</b>									
151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG F1		<b>R. D'Andrea</b>
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>			1 hrs	Wed	16-17	CAB G51 HG F1 ML E12		<b>R. D'Andrea</b>
					29.09.	16-17			
<b>376-1219-00L Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions W 3 credits 2V</b>									
376-1219-00 V	Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions			2 hrs	Tue	08-10	CAB G11		<b>R. Riener, O. Lamercy</b>
<b>401-0647-00L Introduction to Mathematical W 5 credits 2V+1U</b>									

<b>Optimization</b>								
401-0647-00 V	Introduction to Mathematical Optimization	2 hrs	Tue	16-18	HG F5	<b>D. Adjashvili</b>		
401-0647-00 U	Introduction to Mathematical Optimization <i>Groups are selected in myStudies. Wed 12-13 or Wed 16-17</i>	1 hrs	Wed	12-13 16-17	HG D1.2 IFW A36 ON LINE	<b>D. Adjashvili</b>		
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>				<b>11 credits</b>	<b>4V+2U</b>	
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>	4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	<b>R. Zenklusen</b>		
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>	2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>		
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>				<b>6 credits</b>	<b>3V+2U</b>	
636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>	3 hrs	Wed	14-17	HG D3.2	<b>J. Stelling</b>		
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>	2 hrs	Fri	10-12	HG D1.2	<b>J. Stelling</b>		
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>				<b>6 credits</b>	<b>2V+1U</b>	
401-3055-64 V	Algebraic Methods in Combinatorics	2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>		
401-3055-64 U	Algebraic Methods in Combinatorics	1 hrs	Mon	12-13 13-14	ML F34 ML F34	<b>B. Sudakov</b>		

## ▶▶▶ Signal Processing and Machine Learning

### ▶▶▶▶ Core Subjects

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0105-00L</b>	<b>Introduction to Estimation and Machine Learning</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0105-00 G	Introduction to Estimation and Machine Learning			4 hrs	Fri	14-18	ETF C1	<b>H.-A. Loeliger</b>	
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
227-0423-00 V	Neural Network Theory			2 hrs	Tue	10-12	HG F5	<b>H. Bölcskei</b>	
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on: <a href="https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html">https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html</a>. The reserved room is meant for those students who want to follow the course from the campus.</i>			1 hrs	Tue	12-13	HG F5	<b>H. Bölcskei</b>	
<b>227-0427-00L</b>	<b>Signal Analysis, Models, and Machine Learning</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0427-00 G	Signal Analysis, Models, and Machine Learning <i>This course was replaced by "Introduction to Estimation and Machine Learning" and "Advanced Signal Analysis, Modeling, and Machine Learning". Does not take place this semester.</i>			4 hrs					<b>H.-A. Loeliger</b>
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1	<b>L. Van Gool</b> , E. Konukoglu, F. Yu	
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool</b> , E. Konukoglu, F. Yu	
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>					
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann</b> , C. Cotrini Jimenez	
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed Thu Fri	14-16 16-18 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann</b> , C. Cotrini Jimenez	
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs					<b>J. M. Buhmann</b> , C. Cotrini Jimenez

### ▶▶▶▶ Recommended Subjects

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0101-00L</b>	<b>Discrete-Time and Statistical Signal Processing</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18	HG F3	<b>H.-A. Loeliger</b>	
<b>227-0116-00L</b>	<b>VLSI 1: HDL based design for FPGAs</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					



227-0116-00 G	VLSI 1: HDL based design for FPGAs		5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1	F. K. Gürkaynak, L. Benini
<b>227-0155-00L</b>	<b>Machine Learning on Microcontrollers</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>			
	<i>Registration in this class requires the permission of the instructors. Class size will be limited to 25. Preference is given to students in the MSc EEIT.</i>						
227-0155-00 G	Machine Learning on Microcontrollers	■	3 hrs	Mon 27.09.	13-16 13-16	LFO C13 ETZ K63	M. Magno, L. Benini
	<i>Permission from lecturers required for all students</i>						
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>			
227-0225-00 G	Linear System Theory		5 hrs	Mon Wed 22.09.	09-12 10-12 10-12	IFW A36 ETZ E6 HG D1.1	A. Iannelli
<b>227-0417-00L</b>	<b>Information Theory I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0417-00 G	Information Theory I		4 hrs	Wed	14-18	ETF C1	A. Lapidoth
<b>227-0421-00L</b>	<b>Deep Learning in Artificial and Biological Neuronal Networks</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
227-0421-00 G	Deep Learning in Artificial and Biological Neuronal Networks		3 hrs	Wed	09-12	ML F34	B. Grewe
<b>227-0477-00L</b>	<b>Acoustics I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0477-00 G	Acoustics I		4 hrs	Mon	14-18	ETZ E7	K. Heutschi
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
263-5210-00 V	Probabilistic Artificial Intelligence		3 hrs	Fri	10-12	ETA F5 ETF E1 ETA F5 ETF E1	A. Krause
	<i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>						
263-5210-00 U	Probabilistic Artificial Intelligence		2 hrs	Thu	16-18	CHN C14	A. Krause
	<i>Q&amp;A session: Monday, 17-18, via zoom</i>						
263-5210-00 A	Probabilistic Artificial Intelligence		2 hrs				A. Krause
<b>263-5255-00L</b>	<b>Foundations of Reinforcement Learning</b>	<b>W</b>	<b>5 credits</b>	<b>2V+2A</b>			
	<i>Number of participants limited to 190.</i>						
263-5255-00 V	Foundations of Reinforcement Learning		2 hrs	Fri	14-16	CAB G11	N. He
263-5255-00 A	Foundations of Reinforcement Learning		2 hrs				N. He
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>			
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization)		4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	R. Zenklusen
	<i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>						
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization)		2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	R. Zenklusen
	<i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fri 12-14 or Fri 14-16 (depending on demand)</i>						
<b>401-3621-00L</b>	<b>Fundamentals of Mathematical Statistics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>			
401-3621-00 V	Fundamentals of Mathematical Statistics		4 hrs	Tue Wed	08-10 10-12	HG E5 HG E7	S. van de Geer
401-3621-00 U	Fundamentals of Mathematical Statistics		1 hrs	Tue	12-13	HG D7.1 HG E7	S. van de Geer
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
401-3055-64 V	Algebraic Methods in Combinatorics		2 hrs	Wed	10-12	IFW A36	B. Sudakov
401-3055-64 U	Algebraic Methods in Combinatorics		1 hrs	Mon	12-13 13-14	ML F34 ML F34	B. Sudakov

### ►►► Subjects of General Interest

*These courses are suitable for several special fields. Please consult your tutor.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0377-10L</b>	<b>Physics of Failure and Reliability of Electronic Devices and Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
227-0377-10 V	Physics of Failure and Reliability of Electronic Devices and Systems		2 hrs	Thu	14-16	ETZ K91		I. Shorubalko, M. Held
<b>363-0790-00L</b>	<b>Technology Entrepreneurship</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
363-0790-00 V	Technology Entrepreneurship		2 hrs	Tue	18-20	HG E5		F. Hacklin
	<i>The lecture takes place online via (streaming or) zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>							
<b>151-0317-00L</b>	<b>Visualization, Simulation and Interaction - Virtual Reality II</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0317-00 G	Visualization, Simulation and Interaction - Virtual Reality II		3 hrs	Mon	12-15	CLA E4		A. Kunz
	<i>Additional lecture hour in consultation with the students.</i>							

### ►► Internship in Industry

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-1550-00L</b>	<b>Internship in Industry</b>	<b>Z</b>	<b>0 credits</b>					
	<i>Only for Electrical Engineering and</i>							

## ► Semester Projects

Number	Title	Type	ECTS	Hours	Lecturers
227-1101-00L	<b>How to Write Scientific Texts</b> <i>Strongly recommended prerequisite for Semester Projects and Master Theses at D-ITET (MSc BME, MSc EEIT, MSc EST).</i>	E-	0 credits		
227-1101-00 S	How to Write Scientific Texts Room to be announced			4s hrs 04.11. 16-18 11.11. 16-18 n/a n/a	U. Koch
227-1572-01L	<b>Semester Project (Nr 1)</b> <i>Registration in myStudies required! Supervisor must be a professor at D-ITET or associated, see <a href="https://www.ee.ethz.ch/studies/main-master/projects-and-master-thesis.html">https://www.ee.ethz.ch/studies/main-master/projects-and-master-thesis.html</a></i>  <i>The first semester project is compulsory both for students enrolled in the MSc EEIT under the 2008 regulations and for students enrolled under the 2018 regulations.</i>	O	12 credits	20A	
227-1572-01 A	Semester Project (Nr 1) ■ Permission from lecturers required for all students			280s hrs by appt.	Supervisors
227-1572-02L	<b>Semester Project (Nr 2)</b> <i>Registration in myStudies required! Supervisor must be a professor at D-ITET or associated, see <a href="https://www.ee.ethz.ch/studies/main-master/projects-and-master-thesis.html">https://www.ee.ethz.ch/studies/main-master/projects-and-master-thesis.html</a></i>  <i>The second semester project is compulsory for students enrolled in the MSc EEIT under the 2008 regulations, it is optional for students enrolled under the 2018 regulations.</i>  <i>Students enrolled in the MSc EEIT under the 2018 regulations must consult their tutor before enrolling for semester project 2.</i>	W	12 credits	20A	
227-1572-02 A	Semester Project (Nr 2) ■ Permission from lecturers required for all students			280s hrs by appt.	Supervisors

## ► GESS Science in Perspective

see Science in Perspective: Language Courses ETH/UZH

see Science in Perspective: Type A: Enhancement of Reflection Capability

Recommended Science in Perspective (Type B) for D-ITET

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
227-1101-00L	<b>How to Write Scientific Texts</b> <i>Strongly recommended prerequisite for Semester Projects and Master Theses at D-ITET (MSc BME, MSc EEIT, MSc EST).</i>	E-	0 credits		
227-1101-00 S	How to Write Scientific Texts Room to be announced			4s hrs 04.11. 16-18 11.11. 16-18 n/a n/a	U. Koch
227-1501-00L	<b>Master's Thesis</b> <i>Admission only if ALL of the following apply:</i> <i>a) bachelor program successfully completed;</i> <i>b) acquired (if applicable) all credits from additional requirements for admission to master program;</i> <i>c) successfully completed both semester projects.</i>  <i>Note: the conditions above are not applicable to incoming exchange students.</i>  <i>Registration in mystudies required! Supervisor must be a professor at D-ITET or associated, see <a href="https://www.ee.ethz.ch/studies/main-master/projects-and-master-thesis.html">https://www.ee.ethz.ch/studies/main-master/projects-and-master-thesis.html</a>.</i>	O	30 credits	68D	
227-1501-00 D	Master's Thesis ■			950s hrs by appt.	Supervisors

## ► Generally Accessible Seminars and Colloquia

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0919-00L</b>	<b>Knowledge-Based Image Interpretation</b>	<b>Z</b>	<b>0 credits</b>	<b>2S</b>					<b>L. Van Gool</b>
227-0919-00 S	Knowledge-Based Image Interpretation			2 hrs	Thu	10-12	ETZ F91		
<b>227-0920-00L</b>	<b>Seminar in Systems and Control</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>					<b>F. Dörfler</b> , R. D'Andrea, E. Frazzoli, M. H. Khammash, J. Lygeros, R. Smith
227-0920-00 S	Seminar in Systems and Control <i>Detailed information on the seminars upon subscription only: Several seminars will take place during the semester, but some of the available slots may remain unoccupied. Seminars will be announced individually, enrolled students will received detailed information for each one by email.</i>  <i>Online lecture: This lecture will take place online until 25.10.21. Reserved room will remain reserved on campus for students to follow the course from there. From 01.11.21 in presence. Course website: <a href="https://nccr-automation.ch/news/2021/nccr-automation-seminar-series">https://nccr-automation.ch/news/2021/nccr-automation-seminar-series</a></i>			1 hrs	Mon 21.09.	16-17 16-17	ML F38 ON LINE		
<b>227-0955-00L</b>	<b>Seminar in Electromagnetics, Photonics and Terahertz</b>	<b>Z</b>	<b>3 credits</b>	<b>2S</b>					<b>J. Leuthold</b>
227-0955-00 S	Seminar in Electromagnetics, Photonics and Terahertz			2 hrs	Wed	10-12	ETZ K71		
<b>227-0970-00L</b>	<b>Research Topics in Biomedical Engineering</b>	<b>Z</b>	<b>0 credits</b>	<b>1K</b>					<b>K. P. Prüssmann</b> , S. Kozerke, M. Stampanoni, K. Stephan, J. Vörös
227-0970-00 K	Research Topics in Biomedical Engineering			1 hrs	Tue	18-19	ETZ E6		
<b>227-0980-00L</b>	<b>Seminar on Biomedical Magnetic Resonance</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>					<b>K. P. Prüssmann</b> , S. Kozerke, M. Weiger Senften
227-0980-00 S	Seminar on Biomedical Magnetic Resonance			1 hrs	Thu	12-13	ETZ E6		
<b>401-5680-00L</b>	<b>Foundations of Data Science Seminar</b>	<b>Z</b>	<b>0 credits</b>						<b>P. L. Bühlmann</b> , A. Bandeira, H. Bölcskei, F. Yang
401-5680-00 K	Foundations of Data Science Seminar <a href="https://www.math.ethz.ch/sfs/news-and-events/data-science-seminar.html">https://www.math.ethz.ch/sfs/news-and-events/data-science-seminar.html</a> Time: 16:15-17:15			3s hrs	23.09. 11.11. 02.12.	16-18 16-18 16-18	HG F3 HG G19.2 HG G19.1		

## ► Course Units for Additional Admission Requirements

*The courses below are only available for MSc students with additional requirements.*

Number	Title	Type	ECTS	Hours	Lecturers
227-0101-AAL	<b>Discrete-Time and Statistical Signal Processing</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	6 credits	8R	H.-A. Loeliger
227-0101-AA R	Discrete-Time and Statistical Signal Processing <i>Self-study course. No presence required. The underlying lecture is offered in autumn semester (Tuesday 13-17h).</i>			112s hrs	
227-0103-AAL	<b>Control Systems</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	6 credits	8R	F. Dörfler
227-0103-AA R	Regelsysteme <i>Self-study course. No presence required. The underlying lecture and exercise are offered in autumn semester (Monday 10-12h and Tuesday 10-12h).</i>			112s hrs	
227-0166-AAL	<b>Analog Integrated Circuits</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>  <i>Course offered only in the autumn semester with an examination only in winter.</i>	E-	6 credits	8R	

227-0166-AA R Analog Integrated Circuits 112s hrs T. Jang  
*Self-study course. No presence required.  
The underlying lecture and exercise are offered in autumn semester (Friday 10-12h and 14-16h).*

**227-0117-AAL High Voltage Engineering E- 6 credits 8R**  
*Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.*

*Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.*

227-0117-AA R High Voltage Engineering 112s hrs C. Franck  
*Self-study course. No presence required.  
The underlying lecture and exercise are offered in the autumn semester (227-0117-00L)*

#### Electrical Engineering and Information Technology Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Energy Science and Technology Master

## ► Core Courses

At least two core courses must be passed in each area.

All students must participate in the course offered in the area "Interdisciplinary Energy Management"

## ►► Electrical Power Engineering

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0122-00L</b>	<b>Introduction to Electric Power Transmission: System &amp; Technology</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
227-0122-00 V	Introduction to Electric Power Transmission: System & Technology			2 hrs	Thu	08-10	ML H44	<b>C. Franck, G. Hug</b>
227-0122-00 U	Introduction to Electric Power Transmission: System & Technology			2 hrs	Thu	10-12	ML H44	<b>C. Franck, G. Hug</b>
<b>227-1635-00L</b>	<b>Electric Circuits</b> <i>Students without a background in Electrical Engineering must take "Electric Circuits" before taking "Introduction to Electric Power Transmission: System &amp; Technology"</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-1635-00 G	Electric Circuits <i>Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from the campus.</i>			3 hrs	Mon	14-17	ETZ E6	<b>M. Zima, D. Shchetinin</b>

## ►► Energy Flows and Processes

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0293-00L</b>	<b>Combustion and Reactive Processes in Energy and Materials Technology</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U+2A</b>				
151-0293-00 V	Combustion and Reactive Processes in Energy and Materials Technology			2 hrs	Thu	10-12	CAB G61	<b>N. Noiray, F. Ernst, C. E. Frouzakis</b>
151-0293-00 U	Combustion and Reactive Processes in Energy and Materials Technology			1 hrs	Mon	17-18	ML F36	<b>N. Noiray, F. Ernst, C. E. Frouzakis</b>
151-0293-00 A	Combustion and Reactive Processes in Energy and Materials Technology			30s hrs	by appt.			<b>N. Noiray, F. Ernst, C. E. Frouzakis</b>
<b>151-1633-00L</b>	<b>Energy Conversion</b> <i>This course is intended for students outside of D-MAVT.</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-1633-00 G	Energy Conversion			3 hrs	Mon	10-13	NO C6	<b>I. Karlin, G. Sansavini</b>

## ►► Energy Economics and Policy

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0503-00L</b>	<b>Principles of Microeconomics</b> <i>GESS (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L Einführung in die Mikroökonomie.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
363-0503-00 G	Principles of Microeconomics <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	18-20	HG F7	<b>M. Filippini</b>

## ►► Interdisciplinary Energy Management

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-1631-10L</b>	<b>Case Studies: Energy Systems and Technology: Part 1</b> <i>Only for Energy Science and Technology MSc.</i>	<b>O</b>	<b>2 credits</b>	<b>4G</b>				
227-1631-10 G	Case Studies: Energy Systems and Technology (Part 1) <i>Attendance is required at these sessions:</i> - Kick-off: Tue., 05.10.2021, 16:15-19:00 (HG E7) - Progress update presentations: Tue., 30.11.2021, 16:15-19:00 (HG D1.1) - Final presentations: Tue., 17.05.2022, 15:15-18:00 (room tba)			60s hrs	05.10. 30.11. 17.05.	16-19 16-19 16-19	HG E7 HG D1.1 n/a	<b>C. Franck, C. Schaffner</b>

## ► Industrial Internship

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-1650-10L</b>	<b>Internship in Industry</b> <i>Only for Energy Science and Technology MSc.</i>	<b>O</b>	<b>12 credits</b>					
227-1650-10 P	Internship in Industry ■							external organisers

## ► Semester Project

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-1101-00L</b>	<b>How to Write Scientific Texts</b> <i>Strongly recommended prerequisite for Semester Projects and Master Theses at D-ITET (MSc BME, MSc EEIT, MSc EST).</i>	<b>E-</b>	<b>0 credits</b>					
227-1101-00 S	How to Write Scientific Texts <i>Room to be announced</i>			4s hrs	04.11. 11.11.	16-18 16-18	n/a n/a	<b>U. Koch</b>

<b>227-1671-10L</b>	<b>Semester Project</b>	<b>O</b>	<b>12 credits</b>	<b>20A</b>					
227-1671-10 A	Semester Project			20 hrs	by appt.			Supervisors	

## ► Electives

*These courses are particularly recommended, other ETH-courses from the field of Energy Science and Technology at large may be chosen in accordance with your tutor.*

## ►► Electrical Power Engineering

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0113-00L</b>	<b>Power Electronics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0113-00 G	Leistungselektronik			4 hrs	Thu	14-18	HG E1.2	<b>J. W. Kolar</b>
<b>227-0117-00L</b>	<b>High Voltage Engineering</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0117-00 G	High Voltage Engineering			4 hrs	Thu	14-18	ETZ E7	<b>C. Franck, U. Straumann</b>
<b>227-0247-00L</b>	<b>Power Electronic Systems I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0247-00 G	Power Electronic Systems I			4 hrs	Tue	14-16 16-18	HG D5.2 HG D5.2	<b>J. Biela, F. Krismer</b>
<b>227-0311-00L</b>	<b>Qubits, Electrons, Photons</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>				
227-0311-00 V	Qubits, Electrons, Photons			3 hrs	Thu Fri	08-10 13-14	CHN F42 ETZ E9	<b>T. Zambelli</b>
227-0311-00 U	Qubits, Electrons, Photons			2 hrs	Wed	10-12	HG D3.2	<b>T. Zambelli</b>
<b>227-0523-00L</b>	<b>Railway Systems I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0523-00 G	Eisenbahn-Systemtechnik I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>			4 hrs	Fri	08-12	LFW C1	<b>M. Meyer</b>
<b>227-0526-00L</b>	<b>Power System Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0526-00 G	Power System Analysis <i>The language of instruction will be chosen by the students in the first lecture (English or German)</i>			4 hrs	Wed	14-18	ETZ E6	<b>G. Hug</b>
<b>227-0531-00L</b>	<b>Control of Power-Electronics-Dominated Power Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2V+2U</b>				
227-0531-00 V	Control of Power-Electronics-Dominated Power Systems <i>This course starts on September 28, 2021.</i>			2 hrs	Tue	08-10	CAB G52	<b>E. Prieto Araujo</b>
227-0531-00 U	Control of Power-Electronics-Dominated Power Systems <i>This course starts on September 28, 2021.</i>			2 hrs	Tue	10-12	CAB G52	<b>E. Prieto Araujo</b>
<b>227-0536-00L</b>	<b>Multiphysics Simulations for Power Systems</b> <i>This course is defined so and planned to be an addition to the module "227-0537-00L Technology of Electric Power System Components". However, the students who are familiar with the fundamentals of electromagnetic fields could attend only this course without its 227-0537-00-complement.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
227-0536-00 V	Multiphysics Simulations for Power Systems			2 hrs	Mon	10-12	HG E22	<b>J. Smajic</b>
227-0536-00 U	Multiphysics Simulations for Power Systems			2 hrs	Mon	08-10	HG E22	<b>J. Smajic</b>
<b>227-0731-00L</b>	<b>Power Market I - Portfolio and Risk Management</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0731-00 G	Power Market I - Portfolio and Risk Management			4 hrs	Tue	08-12	HG D7.1	<b>D. Reichelt, G. A. Koepfel</b>
<b>227-0615-00L</b>	<b>Simulation of Photovoltaic Devices - From Materials to Modules</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
227-0615-00 G	Simulation of Photovoltaic Devices - From Materials to Modules			2 hrs	Thu	14-16	LEE C104	<b>U. Aeberhard</b>
<b>227-0617-00L</b>	<b>Solar Cells</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0617-00 G	Solar Cells			3 hrs	Wed	09-12	HG D7.2	<b>A. N. Tiwari, R. Carron, Y. Romanyuk</b>

## ►► Energy Flows and Processes

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0123-00L</b>	<b>Experimental Methods for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0123-00 V	Experimental Methods for Engineers <i>Lecture starts in the first week.</i>			2 hrs	Thu	14-16	ML F39	<b>T. Rösigen, B. Schuermans, M. Tibbitt</b>
151-0123-00 U	Experimental Methods for Engineers <i>Exercises start in the first week.</i>			2 hrs	Thu	08-10	ML F39	<b>T. Rösigen, B. Schuermans, M. Tibbitt</b>
<b>151-0163-00L</b>	<b>Nuclear Energy Conversion</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0163-00 V	Nuclear Energy Conversion <i>Does not take place this semester.</i>			2 hrs				
151-0163-00 U	Nuclear Energy Conversion <i>Does not take place this semester. Andere Übungstermine können abgesprochen werden.</i>			1 hrs				
<b>151-0185-00L</b>	<b>Radiation Heat Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				

151-0185-00 V	Radiation Heat Transfer <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Thu	10-12	ML F39	<b>A. Steinfeld, P. Pozivil</b>
151-0185-00 U	Radiation Heat Transfer <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	1 hrs	Thu	12-13	ML F39	<b>A. Steinfeld, P. Pozivil</b>
<b>151-0209-00L</b>	<b>Renewable Energy Technologies</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0209-00 G	Renewable Energy Technologies <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	3 hrs	Tue	14-17	HG G5	<b>A. Steinfeld, E. I. M. Casati</b>
<b>151-0216-00L</b>	<b>Wind Energy</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
151-0216-00 V	Wind Energy <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Thu	14-16	HG D7.1	<b>N. Chokani</b>
151-0216-00 U	Wind Energy <i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>	1 hrs	Thu	16-17	HG D7.1	<b>N. Chokani</b>
<b>151-0251-00L</b>	<b>Principles, Efficiency Optimization and Future Applications of IC Engines</b> <i>Note: previous course title until HS20 "IC-Engines: Principles, Thermodynamic Optimization and Future Applications".</i>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
151-0251-00 V	Principles, Efficiency Optimization and Future Applications of IC Engines	2 hrs	Tue	10-12	ML F34	<b>Y. M. Wright, P. Soltic</b>
151-0251-00 U	Principles, Efficiency Optimization and Future Applications of IC Engines	1 hrs	Tue	12-13	ML F34	<b>Y. M. Wright, P. Soltic</b>
<b>151-0293-00L</b>	<b>Combustion and Reactive Processes in Energy and Materials Technology</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U+2A</b>		
151-0293-00 V	Combustion and Reactive Processes in Energy and Materials Technology	2 hrs	Thu	10-12	CAB G61	<b>N. Noiray, F. Ernst, C. E. Frouzakis</b>
151-0293-00 U	Combustion and Reactive Processes in Energy and Materials Technology	1 hrs	Mon	17-18	ML F36	<b>N. Noiray, F. Ernst, C. E. Frouzakis</b>
151-0293-00 A	Combustion and Reactive Processes in Energy and Materials Technology	30s hrs	by appt.			<b>N. Noiray, F. Ernst, C. E. Frouzakis</b>
<b>151-0567-00L</b>	<b>Engine Systems</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0567-00 G	Engine Systems <i>Lecture: Monday 8-10h Exercises: Monday 12-13h</i>	3 hrs	Mon	08-10 12-13 06.10.	ML F38 ML H41.1 ML E12	<b>C. Onder</b>
<b>151-0569-00L</b>	<b>Vehicle Propulsion Systems</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0569-00 G	Vehicle Propulsion Systems	3 hrs	Fri	08-10 12-14	ML F34 CHN E46	<b>C. Onder, P. Elbert</b>
<b>529-0613-01L</b>	<b>Process Simulation and Flowsheeting</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>		
529-0613-01 G	Process Simulation and Flowsheeting <i>The module combines theory-based lectures (Mondays) with practical lectures based on Aspen (Wednesdays)</i>	3 hrs	Mon Wed	10-13 14-18	HCI J4 HCI G174	<b>G. Guillén Gosálbez</b>

## ►► Energy Economics and Policy

Number	Title	Type	ECTS	Hours					Lecturers
101-0577-00L	An Introduction to Sustainable Development in the Built Environment	W	3 credits	2G					
101-0577-00 G	An Introduction to Sustainable Development in the Built Environment			2 hrs	Tue	16-18	HIL E4	G. Habert, D. Kaushal	
102-0317-00L	Advanced Environmental Assessments <i>Master students in Environmental Engineering choosing module Ecological Systems Design are not allowed to enrol 102-0317-00 Advanced Environmental Assessments (3KP) as already included in 102-0307-01 Advanced Environmental, Social and Economic Assessments (5KP).</i>	W	3 credits	2G					
102-0317-00 G	Advanced Environmental Assessments			2 hrs	Thu	10-12	HIL E9	S. Pfister, R. Frischknecht	
102-0317-03L	Advanced Environmental Assessment (Computer Lab I)	W	1 credit	1U					
102-0317-03 U	Advanced Environmental Assessment (Computer Lab I) <i>Takes place on Tuesday 8-9.45 at ETH Hönggerberg (7 times; starting in the second week of the semester; exact dates to be confirmed).</i>			1 hrs					S. Pfister
102-0317-04L	Advanced Environmental Assessment (Computer Lab II) <i>Not for master students in Environmental Engineering choosing module Ecological System Design as already included in Environment and Computer Laboratory I</i>	W	2 credits	2P					

(Year Course): 102-0527-00 and 102-0528-00.									
102-0317-04 P	Advanced Environmental Assessment (Computer Lab II) ■ <i>Takes place on Tuesday 8-9.45 at ETH Hönggerberg (8 times; starting in the second week of the semester; exact dates to be confirmed)</i>		2 hrs	S. Pfister					
102-0327-01L	<b>Implementation of Environmental and Other Sustainability Goals</b> <i>Master students in Environmental Engineering choosing module Ecological Systems Design are not allowed to enrol 102-0327-01 Advanced Environmental Assessments (2KP) as already included in 102-0307-01 Advanced Environmental, Social and Economic Assessments (5KP).</i>	W	2 credits	2G					
102-0327-01 G	Implementation of Environmental and Other Sustainability Goals <i>Remark: No course on 26.10.2021. The course will be instead on 02.11.2021 (room will be announced later on).</i>		21s hrs	Tue/2w	09-12	HIL E9	A. E. Braunschweig		
227-0759-00L	<b>International Business Management for Engineers</b> <i>This course will be offered for the last time in fall 2021</i>	W	3 credits	2V					
227-0759-00 V	International Business Management for Engineers <i>The lecture will be held in three blocks each of them on a Saturday (starts on September 18, 2021). Each block will focus on one of the three main topics of the course. Between the blocks the students will work on specific case studies to deepen the subject matter. About two weeks after the third block a written examination will be conducted.</i>  <i>This course will be offered for the last time in fall 2021</i>		24s hrs	W. Hofbauer					
363-0537-00L	<b>Resource and Environmental Economics</b>	W	3 credits	2G					
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>		2 hrs	Wed	10-12	HG G3	L. Bretschger		
363-0387-00L	<b>Corporate Sustainability</b>	W	3 credits	2G					
363-0387-00 G	Corporate Sustainability <i>The course combines online learning elements and live sessions, some of which are recorded. Several course sessions require live attendance. Details are provided on the moodle course page.</i>		2 hrs	Wed/2	16-18	HG E21 HG E22	V. Hoffmann, C. Bening-Bach, N. U. Blum, J. Meuer		
				Wed	16-18	HG F3			
				Wed/2	16-18	ML E12			
► GESS Science in Perspective									
see GESS Science in Perspective: Language Courses ETH/USZ									
see GESS Science in Perspective: Type A: Enhancement of Reflection Capability									
Recommended GESS Science in Perspective (Type B) for D-ITET									
► Master's Thesis									
Number	Title	Type	ECTS	Hours	Lecturers				
227-1101-00L	<b>How to Write Scientific Texts</b> <i>Strongly recommended prerequisite for Semester Projects and Master Theses at D-ITET (MSc BME, MSc EEIT, MSc EST).</i>	E-	0 credits						
227-1101-00 S	How to Write Scientific Texts <i>Room to be announced</i>			4s hrs	04.11. 11.11.	16-18 16-18	n/a n/a	U. Koch	
227-1601-00L	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to enroll for and start with their master thesis: a. successful completion of the bachelor program; b. any additional requirements necessary to gain admission to the master program EST have been successfully completed; c. both the semester project and the internship have been successfully completed.</i>  <i>Registration in mystudies required!</i>	O	30 credits	40D					
227-1601-00 D	Master's Thesis ■			40 hrs	by appt.	Supervisors			



#### Energy Science and Technology Master - Key for Type

W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory
Z	Courses outside the curriculum	W+	Eligible for credits and recommended

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Earth and Climate Sciences Bachelor

## ► Basic Courses I

### ►► First Year Examinations

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-2001-02L</b>	<b>Chemistry I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
529-2001-02 V	Chemie I <i>Vorlesung im HG F1 mit Videoübertragung ins HG F3.</i>			2 hrs	Tue	08-10	HG F1 HG F3	<b>J. Cvengros</b>
529-2001-02 U	Chemie I <i>Übungen:</i>  <i>Mi 14-16 für Umweltingenieurwissenschaften</i> <i>Do 10-12 für Agrar-, Lebensmittel-, Erdwissenschaften</i> <i>Fr 8-10 für Umweltnaturwissenschaften</i>			2 hrs	Wed Thu	14-16 10-12	CHN C14 ETZ E8 ETZ H91 HG G26.3 IFW A34 IFW B42	<b>J. Cvengros</b> , J. E. E. Buschmann, P. Funck, E. C. Meister, R. Verel
					Fri	08-10	ETZ J91 IFW A36	
<b>401-0251-00L</b>	<b>Mathematics I</b>	<b>O</b>	<b>6 credits</b>	<b>4V+2U</b>				
401-0251-00 V	Mathematik I: Analysis I und Lineare Algebra			4 hrs	Mon Wed Thu	09-10 12-14 09-10	HG E7 HG E7 HG E7	<b>F. Da Lio</b>
401-0251-00 U	Mathematik I: Analysis I und Lineare Algebra <i>Groups are selected in myStudies.</i> <i>Die Übungen beginnen in der zweiten Semesterwoche.</i> <i>Mo 14-16 für Studiengänge Erd- und Klimawissenschaften bzw. Umweltnaturwissenschaften.</i> <i>Di 14-16 für Studiengänge Agrarwissenschaften bzw. Lebensmittelwissenschaften.</i>  <i>Zusätzlich wird das Mathe-Lab (Präsenzstunden) angeboten: Mo 16-18 in CAB G 51 und Di 12-14 in HG E 1.2.</i>			2 hrs	Mon	14-16	CHN D44 CHN F42 ETZ E9 ETZ G91 ETZ H91 ETZ K91 HG F26.5 LFW C4 CAB G56 CLA E4 LFO C13 LFW C5 RZ F21	<b>F. Da Lio</b>
					Tue	14-16		
<b>651-3001-00L</b>	<b>Dynamic Earth I</b>	<b>O</b>	<b>6 credits</b>	<b>4V+2U</b>				
651-3001-00 V	Dynamische Erde I			4 hrs	Tue Thu	14-16 14-16	NO C60 NO C60	<b>O. Bachmann</b> , A. Fichtner, M. Schönbächler, S. Willett
651-3001-00 U	Dynamische Erde I <i>Groups are selected in myStudies.</i> <i>Die Gruppeneinteilung wird über den Button rechts "Gruppe wählen" gemacht. Die Übungen beginnen erst in der zweiten Woche des Semesters.</i>			2 hrs	Mon	08-10	NO D1 NO D11 NO D1 NO E51.1 NO G51.1 NO D1 NO D69 NO E51.1 NO F39 NO D1 NO D1 NO E11 NO E39 NO F39 NO G51.1 NO D1 NO D69 NO D1 NO D11 NO E11 NO E51.1	<b>A. Galli</b>
					Tue	08-10		
					Wed Thu	14-16 10-12 16-18		

### ►► First Year Additional Compulsory Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0030-00L</b>	<b>Laboratory Course: Elementary Chemical Techniques</b>	<b>O</b>	<b>3 credits</b>	<b>6P</b>				
529-0030-00 P	Praktikum Chemie <i>Vorwiegend BSc UWIS: Kurs 1</i> <i>Vorwiegend BSc ERD, AGR, LM: Kurs 2</i>			6 hrs	17.01. 17.01.- 04.02.	08-10 08-10	CHN E46 CHN D42  CHN D44 CHN D46 CHN G22 CHN D42 CHN D44 CHN D46 CHN G22 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46	<b>N. Kobert</b> , A. de Mello, M. H. Schroth
						13-15		
					19.01. 21.01. 24.01. 26.01. 28.01. 31.01. 02.02. 04.02.	09-14 13-17 08-10 09-14 13-17 08-10 09-14 13-17		

## ► Basic Courses II

## ►► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
402-0000-03L	<b>Laboratory Course in Physics for Students in Earth Sciences</b> <i>Enrollment is only possible under <a href="https://www.lehrbetrieb.ethz.ch/laborpraktik">https://www.lehrbetrieb.ethz.ch/laborpraktik</a> a.</i> <i>No registration required via myStudies. For further information visit: <a href="https://ap.phys.ethz.ch">https://ap.phys.ethz.ch</a></i>  <i>Only students from 3rd Semester BSc Earth Sciences on are admitted to this Laboratory Course.</i>	O	2 credits	4P				
402-0000-03 P	Praktikum Physik für Studierende in Erdwissenschaften <i>Das Praktikum wird remote angeboten.</i>  <i>Am 21.09.2021 findet online eine Q&amp;A Session statt. Weiter Informationen unter <a href="https://ap.phys.ethz.ch">https://ap.phys.ethz.ch</a></i>			4 hrs	Tue	14-18	HPP	A. Biland, A. Müller

## ►► Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
402-0063-00L	<b>Physics II</b>	O	5 credits	3V+1U				
402-0063-00 V	Physik II			3 hrs	Mon	13-14	ML D28	A. Vaterlaus
					Wed	13-15	HPH G2	
402-0063-00 U	Physik II <i>Fr 8-9 Uhr im Zentrum für UMNW Studierende</i>			1 hrs	Wed	15-16	HCI D4 HCI D6 HCI E8 HCI F2 HCI F8 HCI J8 HIL C10.2 HIL E5 HIT H42 HIT J51 HPK D24.2 HG E21	A. Vaterlaus
651-3400-00L	<b>Geochemistry I</b>	O	4 credits	3G				
651-3400-00 G	Geochemie I <i>Die Lehrveranstaltung ist zweisprachig. Teil Deutsch: M. Schönbächler, Teil Englisch: D. Vance.</i>			3 hrs	Fri	13-16	NO C60	M. Schönbächler, D. Vance
701-0023-00L	<b>Atmosphere</b>	O	3 credits	2V				
701-0023-00 V	Atmosphäre			2 hrs	Tue	10-12	HG E3	E. M. Fischer, T. Peter

## ►► Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
701-0071-00L	<b>Mathematics III: Systems Analysis</b>	O	4 credits	2V+1U				
701-0071-00 V	Mathematik III: Systemanalyse			2 hrs	Fri	10-12	ML D28	R. Knutti, S. Schemm, H. Wernli
701-0071-00 U	Mathematik III: Systemanalyse			1 hrs	Mon	11-12	CAB G57 CHN F46 HG E33.3 HG F26.5 HG G26.3 LEE D101 LEE D105 LEE E101 ML E12 ML F34 NO E11 NO E39	L. Brunner, S. Schemm, P. Zschenderlein
651-3543-00L	<b>Geophysik I</b>	O	4 credits	2V+1U				
651-3543-00 V	Geophysik I			2 hrs	Wed	10-12	NO C44	D. Giardini, M. O. Saar
651-3543-00 U	Geophysik I			1 hrs	Mon	08-10	ML H41.1	D. Giardini, M. O. Saar
651-3507-00L	<b>Introduction to Oceanography and Hydrogeology</b>	O	3 credits	2V				
651-3507-00 V	Einführung in die Ozeanographie und Hydrogeologie <i>Die Lehrveranstaltung ist zweisprachig. Teil Deutsch: M. Saar, Teil Englisch: D. Vance.</i>			2 hrs	Thu	14-16	NO C6	D. Vance, M. O. Saar

## ► General Earth Sciences Courses

Number	Title	Type	ECTS	Hours				Lecturers
651-4143-00L	<b>Geobiology</b> <i>Students registering for the course confirm having read and accepted the terms and conditions for excursions and field courses of D-ERDW: <a href="https://ethz.ch/content/dam/ethz/special-interest/erdw/departement/dokumente/studiu">https://ethz.ch/content/dam/ethz/special-interest/erdw/departement/dokumente/studiu</a></i>	O	3 credits	2V+1U				

651-4143-00 V	Geobiology <i>Die Exkursion findet am 2. Oktober 2021 statt.</i>			2 hrs	Fri	10-12	LFW C5	<b>T. I. Eglinton, C. Magnabosco</b> , C. Welte, S. Wohlwend <b>C. Magnabosco</b>
651-4143-00 U	Geobiology Exercises <i>Groups are selected in myStudies.</i>			1 hrs	Wed	16-17	NO D11 NO E11 NO E51.1 NO C44	
					22.09.	16-17		
<b>651-3301-00L</b>	<b>Crystals and Minerals</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1.5U</b>				
651-3301-00 V	Kristalle und Mineralien			2 hrs	Tue	10-12	CAB G11	<b>M. Murakami</b> <b>S. Petitgirard</b> , G. Spiekermann
651-3301-00 U	Kristalle und Mineralien			1.5 hrs	Fri	08-10	NO D1 NO D69	
<b>651-4271-00L</b>	<b>Data Analysis and Visualisation with Matlab in Earth Sciences</b> <i>Information for D-INFK students: the course is only for 3rd semester BSc students.</i>	<b>O</b>	<b>3 credits</b>	<b>3G</b>				
651-4271-00 G	Erdwissenschaftliche Datenanalyse und Visualisierung mit Matlab			3 hrs	Mon	13-14	HG E26.1 HG E26.3 HG D5.2 HG D12 HG E27	<b>G. De Souza</b> , A. Obermann, S. Wiemer
					Wed	08-09 09-10		
<b>651-3402-00L</b>	<b>Magmatism and Metamorphose I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>				
651-3402-00 V	Magmatismus und Metamorphose I			2 hrs	Thu	10-12	NO C6	<b>M. W. Schmidt</b> , P. Ulmer <b>M. W. Schmidt</b> , P. Ulmer
651-3402-00 U	Magmatismus und Metamorphose I			1 hrs	Tue	08-10	NO D1 NO D69	

## ► Integrated Earth Systems

Number	Title	Type	ECTS	Hours				Lecturers
651-4180-02L	Integrated Earth Systems II	O	5 credits	4G+1U				H. Stoll, D. Vance, S. Willett
651-4180-02 G	Integrierte Erdsysteme II ■			4 hrs	Tue	08-12	NO C6 NO D11 NO D53	
651-4180-02 U	Integrierte Erdsysteme II - Tutorials ■			1 hrs	Fri	10-11	NO D1 NO E39 NO E51.1	
						11-12	NO D1 NO E39 NO E51.1	H. Stoll, D. Vance, S. Willett
						12-13	NO D1 NO E39 NO E51.1	

## ► Majors

### ►► Major: Geology and Geophysics

*Advisors of the major in Geology and Geophysics are Dr. Vincenzo Picotti (Geology) and Dr. Jérôme Noir (Geophysics).*

### ►►► Methods

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-3527-00L</b>	<b>Earth Science Mapping Exercises II</b>	<b>W+</b>	<b>2 credits</b>	<b>2P</b>				
651-3527-00 P	Erdwissenschaftliches Kartenpraktikum II			2 hrs	Mon	16-18	NO E11 NO E51.1	<b>J. Ruh</b>
<b>401-0624-00L</b>	<b>Mathematics IV: Statistics</b>	<b>W+</b>	<b>4 credits</b>	<b>2V+1U</b>				
401-0624-00 V	Mathematik IV: Statistik			2 hrs	Thu	08-10	ML D28	<b>J. Ernest</b>
401-0624-00 U	Mathematik IV: Statistik			1 hrs	Thu	10-11	ML F34 ML J34.1	<b>J. Ernest</b>
	<i>Groups are selected in myStudies.</i>						ML F34	
	<i>Do 10-11 für Studiengang Lebensmittelwissenschaften.</i>						13-14 HG E33.1	
	<i>Do 13-14 für Studiengang Agrarwissenschaften.</i>						16-17 NO C44	
	<i>Do 16-17 für Studiengang Erd- und Klimawissenschaften.</i>						18-19 ON LINE	
	<i>Fr 9-10 für Studiengang Umweltwissenschaften.</i>				Fri	09-10	CAB G59	
	<i>Do 18-19 als Online-Übung ausschliesslich für Studierende, welche nicht an den regulären Übungen in Präsenz teilnehmen können.</i>						LFW E13 ML F40	
<b>651-4031-00L</b>	<b>Geographic Information Systems</b>	<b>W+</b>	<b>3 credits</b>	<b>4G</b>				
	<i>Number of participants limited to 60.</i>							
651-4031-00 G	Geographic Information Systems			4 hrs	Wed/2	08-12	HG E26.1 HG E26.3	<b>A. Baltensweiler</b> , M. Hägeli-Golay
<b>651-4131-00L</b>	<b>Introduction to Digital Mapping</b>	<b>W</b>	<b>2 credits</b>	<b>3V</b>				
	<i>Number of participants limited to 20.</i>							
651-4131-00 V	Introduction to Digital Mapping			40s hrs				to be announced
	<i>Does not take place this semester.</i>							
	<i>The course will take place in FS 2022.</i>							

### ►►► Advanced

Number	Title	Type	ECTS	Hours				Lecturers
651-3521-00L	Tectonics	W+	3 credits	2V				W. Behr, S. Willett
651-3521-00 V	Tectonics			2 hrs	Fri	14-16	NO C6	
651-3501-00L	Geochemistry II	W+	3 credits	2G				

651-3501-00 G	Geochemie II			2 hrs	Wed	14-16	IFW A34	<b>S. Bernasconi,</b> M. Schönbächler
<b>651-3440-02L</b>	<b>Geophysics III</b>	<b>W+</b>	<b>4 credits</b>	<b>3G</b>				
651-3440-02 G	Geophysics III			3 hrs	Thu	10-12 13-14	NO D11 NO D11	<b>A. Jackson, M.-A. Meier,</b> <b>P. Tackley</b>
<b>►►► Applied</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>651-3525-00L</b>	<b>Introduction to Engineering Geology</b>	<b>W+</b>	<b>4 credits</b>	<b>2V+1U</b>				
651-3525-00 V	Ingenieurgeologie			2 hrs	Mon	14-16	NO C6	<b>S. Löw,</b> M. Ziegler
651-3525-00 U	Ingenieurgeologie <i>Groups are selected in myStudies. Die Übungen finden in zwei Gruppen statt, jeweils eine Stunde (12-13 oder 13-14).</i>			1 hrs	Tue	12-13 13-14	NO D11 NO D11	<b>S. Löw,</b> L. de Palézieux dit Falconnet, M. Ziegler
<b>651-3541-00L</b>	<b>Exploration and Environmental Geophysics</b>	<b>W+</b>	<b>4 credits</b>	<b>3V</b>				
651-3541-00 V	Exploration and Environmental Geophysics			3 hrs	Thu	14-17	NO F39	<b>P. Edme, H. Maurer,</b> <b>A. Shakas</b>
<b>651-4903-00L</b>	<b>Quaternary Geology and Geomorphology</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4903-00 G	Quartärgeologie und Geomorphologie			2 hrs	Fri	08-10	NO C6	<b>S. Ivy Ochs,</b> M. Luetscher, H. Stoll
<b>►►► Electives</b>								
<i>The electives listed are recommended. Additional courses can be chosen from the complete offerings of the ETH Zurich and University of Zurich.</i>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>651-3561-00L</b>	<b>Cryosphere</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
651-3561-00 V	Kryosphäre			2 hrs	Tue	16-18	CAB G11	<b>M. Huss,</b> A. Bauder, D. Farinotti
<b>701-0565-00L</b>	<b>Fundamentals of Natural Hazards Management</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
701-0565-00 G	Grundzüge des Naturgefahrenmanagements <i>Does not take place this semester. Zusätzlich zwei obligatorische, ganztägige Exkursionen.</i>			3 hrs				<b>V. Griess,</b> B. Krummenacher, S. Löw
<i>Choice of courses from the complete offerings of ETH.</i>								
<b>►►► Bachelor's Seminar</b>								
<i>The Bachelor's Seminar is only offered in the spring semester.</i>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>651-3597-00L</b>	<b>Bachelor's Seminar I</b>	<b>O</b>	<b>2 credits</b>	<b>2S</b>				
651-3597-00 S	Bachelor-Seminar I			2 hrs	Wed	16-18	NO C60	<b>W. Schatz,</b> J. D. Rickli
<b>►► Major: Climate and Water</b>								
<i>Advisor of the BSc-major "Climate and Water" is Dr. Hanna Joos, Institute for climate and atmosphere (IAC).</i>								
<b>►►► Advanced</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>701-0471-01L</b>	<b>Atmospheric Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0471-01 G	Atmosphärenchemie			2 hrs	Wed	08-10	CHN F46	<b>M. Ammann,</b> T. Peter
<b>701-0475-00L</b>	<b>Atmospheric Physics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0475-00 G	Atmosphärenphysik <i>Im Anschluss an die LV findet ein freiwilliges, einstündiges Tutorial im gleichen Raum (CHN F46) statt.</i>			2 hrs	Wed	10-12	CHN F46	<b>U. Lohmann</b>
<b>651-3561-00L</b>	<b>Cryosphere</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
651-3561-00 V	Kryosphäre			2 hrs	Tue	16-18	CAB G11	<b>M. Huss,</b> A. Bauder, D. Farinotti
<b>701-0461-00L</b>	<b>Numerical Methods in Environmental Sciences</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0461-00 G	Numerische Methoden in der Umweltphysik			2 hrs	Thu	08-10	CHN E46	<b>C. Schär</b>
<b>701-0473-00L</b>	<b>Weather Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0473-00 G	Wettersysteme			2 hrs	Wed	14-16	CHN E46	<b>M. A. Sprenger,</b> F. Scholder- Aemisegger
<b>►►► Electives</b>								
<i>The electives listed are recommended. Additional courses can be chosen from the complete offerings of the ETH Zurich and University of Zurich.</i>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>401-0649-00L</b>	<b>Applied Statistical Regression</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>				
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon	08-10	HG E1.2	<b>M. Dettling</b>

401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>	1 hrs	Mon/2w	10-12	HG E1.2	<b>M. Dettling</b>
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	--------	-------	---------	--------------------

701-0535-00L	Environmental Soil Physics/Vadose Zone Hydrology	W	3 credits	2V+1U				
701-0535-00 V	Environmental Soil Physics/Vadose Zone Hydrology			2 hrs	Wed	16-18	CHN E46	A. Carminati, P. U. Lehmann Grunder
701-0535-00 U	Environmental Soil Physics/Vadose Zone Hydrology			1 hrs	Wed	18-19	CHN E46	A. Carminati, P. U. Lehmann Grunder

401-0624-00L	Mathematics IV: Statistics	W	4 credits	2V+1U				
401-0624-00 V	Mathematik IV: Statistik		2 hrs	Thu	08-10	ML D28	J. Ernest	
401-0624-00 U	Mathematik IV: Statistik		1 hrs	Thu	10-11	ML F34	J. Ernest	
	Groups are selected in myStudies.					ML J34.1		
	Do 10-11 für Studiengang Lebensmittelwissenschaften.					13-14 HG E33.1		
	Do 13-14 für Studiengang Agrarwissenschaften.					16-17 NO C44		
	Do 16-17 für Studiengang Erd- und Klimawissenschaften.					18-19 ON LINE		
	Fr 9-10 für Studiengang Umweltnaturwissenschaften.					Fri 09-10 CAB G59		
	Do 18-19 als Online-Übung ausschliesslich für Studierende,					LFW E13		
	welche nicht an den regulären Übungen in Präsenz teilnehmen					ML F40		
	können.							

*Choice of courses from the complete offerings of ETH.*

<b>701-0479-00L</b>	<b>Environmental Fluid Dynamics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-0479-00 G	Umwelt-Fluidodynamik			2 hrs	Fri	14-16	ML F38		<b>H. Wernli, M. Röthlisberger</b>
<b>401-6215-00L</b>	<b>Using R for Data Analysis and Graphics (Part I)</b>	<b>W</b>	<b>1.5 credits</b>	<b>1G</b>					
401-6215-00 G	Using R for Data Analysis and Graphics (Part I)			14s hrs	Tue/1	14-16	CAB G11		<b>M. Mächler</b>

### ▶▶▶ Laboratory Course

*The practical takes place in spring semester.*

### ▶▶▶ Bachelor's Seminar

Number	Title	Type	ECTS	Hours			Lecturers
<b>701-0459-00L</b>	<b>Seminar for Bachelor Students: Atmosphere and Climate</b>	<b>O</b>	<b>3 credits</b>	<b>2S</b>			
701-0459-00 S	Seminar für Bachelor-Studierende: Atmosphäre und Klima		2 hrs	Thu	10-12	CHN F46	<b>R. Knutti, H. Joos, O. Stebler</b>

### ▶ GESS Science in Perspective

#### ▶▶ Science in Perspective

*see Science in Perspective: Type A: Enhancement of Reflection Capability*

*Recommended Science in Perspective (Type B) for D-ERDW*

### ▶▶ Language Courses

*see Science in Perspective: Language Courses ETH/UZH*

### ▶ Bachelor's Thesis

*The Bachelor Thesis and Bachelor-Seminar are offered once per year in the 6th semester, in the spring semester.*

### Earth and Climate Sciences Bachelor - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Earth Sciences Master

## ► Major in Geology

### ►► Compulsory Module in Analytical Methods in Earth Sciences

*Students have to complete 6 credits in part A, and 6 credits in part B.*

#### ►►► Part A: Microscopy Courses

Number	Title	Type	ECTS	Hours				Lecturers	
<b>651-4045-00L</b>	<b>Microscopy of Metamorphic Rocks</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					<b>A. Galli</b>
651-4045-00 G	Microscopy of Metamorphic Rocks <i>The course will be taught twice.</i> <i>Group 1: Mon 12-14 and Tue 16-18</i> <i>Group 2: Tue 12-14 and Wed 8-10</i>			28s hrs	Mon/1	12-14	NO D69		
					Tue/1	12-14	NO D69		
					Wed/1	16-18	NO D69		
<b>651-4047-00L</b>	<b>Microscopy of Magmatic Rocks</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					<b>P. Ulmer</b>
651-4047-00 G	Microscopy of Magmatic Rocks <i>The course will be taught twice.</i> <i>Group 1: Mon 12-14 and Tue 16-18</i> <i>Group 2: Tue 12-14 and Wed 8-10</i>			28s hrs	Mon/2	12-14	NO D69		
					Tue/2	12-14	NO D69		
					Wed/2	16-18	NO D69		
<b>651-4051-00L</b>	<b>Reflected Light Microscopy and Ore Deposits Practical</b>	<b>W+</b>	<b>2 credits</b>	<b>2P</b>					
	<i>Number of participants limited to 19.</i>								
651-4051-00 P	Reflected Light Microscopy and Ore Deposits Practical			28s hrs	Thu/2	14-18	NO D69	<b>T. Driesner</b>	
<b>651-4113-00L</b>	<b>Sedimentary Petrography and Microscopy</b>	<b>W+</b>	<b>2 credits</b>	<b>2G</b>					<b>V. Picotti, M. G. Fellin</b>
651-4113-00 G	Sedimentary Petrography and Microscopy			28s hrs	Fri/1	10-12	NO D69		
						14-16	NO D69		

#### ►►► Part B: Methods

Number	Title	Type	ECTS	Hours				Lecturers
651-4055-00L	<b>Analytical Methods in Petrology and Geology</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4055-00 G	Analytical Methods in Petrology and Geology <i>Introductory lectures in the first week of the semester followed by lab exercises during the first half of the semester including: Electron Probe Microanalyzer (EPMA), laser ablation ICP-MS (LA-ICP-MS), mass spectroscopy for light isotopes, X-ray Diffraction (XRD), and X-ray Fluorescence (XRF).</i>			28s hrs	Thu 23.09. 30.09.	14-18 14-18 14-15	NO NO D11 NO D11	<b>J. Allaz</b> , S. Bernasconi, M. Guillon, L. Zehnder
651-4117-00L	<b>Sediment Analysis</b> <i>Prerequisite: Successful completion of the MSc-course "Sedimentology I" (651-4041-00L).</i>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4117-00 G	Sediment Analysis			28s hrs	Thu/2	14-18	NW D86.1	<b>M. G. Fellin</b> , A. Gilli, V. Picotti
651-4063-00L	<b>X-Ray Powder Diffraction</b> <i>Number of participants limited to 18.</i>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4063-00 G	X-Ray Powder Diffraction <i>Permission from lecturers required for all students</i> <i>Vorlesung: 27.9. - 18.10.2021 und zusätzlich 20.12.2021</i> <i>Übungen: 25.10.2021 - 24.12.2021 (HIL E15.2)</i>			2 hrs	Mon Mon/1 20.12.	08-10 08-10 08-10	HIL E15.2 HIL F10.3 HIL F10.3	<b>M. Plötze</b>
651-4131-00L	<b>Introduction to Digital Mapping</b> <i>Number of participants limited to 20.</i>	<b>W+ Dr</b>	<b>2 credits</b>	<b>3V</b>				
651-4131-00 V	Introduction to Digital Mapping <i>Does not take place this semester.</i> <i>The course will take place in FS 2022.</i>			40s hrs	to be announced			

#### ►► Restricted Choice Modules Geology

*A minimum of two restricted choice modules must be completed for the major Geology.*

#### ►►► Biogeochemistry

#### ►►►► Biogeochemistry: Compulsory Courses

*The compulsory courses of the module take place in spring semester.*

#### ►►►► Biogeochemistry: Courses of Choice

Number	Title	Type	ECTS	Hours				Lecturers	
651-4043-00L	<b>Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems</b> <i>Prerequisite: Successful completion of the MSc-course "Sedimentology I" (651-4041-00L).</i>	W	3 credits	2G					V. Picotti, A. Gilli, I. Hernández Almeida, H. Stoll
651-4043-00 G	Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems			28s hrs	Tue/2 Wed/2	14-16 10-12	NO D11 NO D11		
651-4057-00L	<b>Climate History and Palaeoclimatology</b>	W	3 credits	2G					H. Stoll, I. Hernández Almeida, H. Zhang
651-4057-00 G	Climate History and Palaeoclimatology			2 hrs	Fri	10-12	ML F39		

#### ►►► Palaeoclimatology

#### ►►►► Palaeoclimatology: Compulsory Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>651-4057-00L</b>	<b>Climate History and Palaeoclimatology</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>H. Stoll</b> , I. Hernández Almeida, H. Zhang
651-4057-00 G	Climate History and Palaeoclimatology			2 hrs	Fri	10-12	ML F39		

#### ▶▶▶▶ Palaeoclimatology: Courses of Choice

Number	Title	Type	ECTS	Hours					Lecturers
651-4043-00L	<b>Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems</b> <i>Prerequisite: Successful completion of the MSc-course "Sedimentology I" (651-4041-00L).</i>	W	3 credits	2G					V. Picotti, A. Gilli, I. Hernández Almeida, H. Stoll
651-4043-00 G	Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems			28s hrs	Tue/2 Wed/2	14-16 10-12	NO D11 NO D11		

#### ▶▶▶ Sedimentology

#### ▶▶▶▶ Sedimentology: Compulsory Courses

Number	Title	Type	ECTS	Hours					Lecturers
651-4041-00L	Sedimentology I: Physical Processes and Sedimentary Systems	W+	3 credits	2G					V. Picotti
651-4041-00 G	Sedimentology I: Physical Processes and Sedimentary Systems			28s hrs	Tue/1 Wed/1	14-16 10-12	NO D11 NO D11		
651-4043-00L	Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems <i>Prerequisite: Successful completion of the MSc-course "Sedimentology I" (651-4041-00L).</i>	W+	3 credits	2G					V. Picotti, A. Gilli, I. Hernández Almeida, H. Stoll
651-4043-00 G	Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems			28s hrs	Tue/2 Wed/2	14-16 10-12	NO D11 NO D11		

#### ▶▶▶▶ Sedimentology: Courses of Choice

Number	Title	Type	ECTS	Hours					Lecturers
651-4901-00L	Quaternary Dating Methods	W	3 credits	2G					I. Hajdas, M. Christl, S. Ivy Ochs
651-4901-00 G	Quaternary Dating Methods			2 hrs	Tue 12.10.	08-10 08-10	NO E11 HPK D24.2		
651-4063-00L	X-Ray Powder Diffraction <i>Number of participants limited to 18.</i>	W	3 credits	2G					M. Plötze
651-4063-00 G	X-Ray Powder Diffraction			2 hrs	Mon	08-10	HIL E15.2		
	<i>Permission from lecturers required for all students</i>				Mon/1	08-10	HIL F10.3		
	<i>Vorlesung: 27.9. - 18.10.2021 und zusätzlich 20.12.2021</i>				20.12.	08-10	HIL F10.3		
	<i>Übungen: 25.10.2021 - 24.12.2021 (HIL E15.2)</i>								

#### ▶▶▶ Structural Geology

#### ▶▶▶▶ Structural Geology: Compulsory Courses

Number	Title	Type	ECTS	Hours	Lecturers
651-4132-00L	<b>Field Course IV: Non Alpine Field Course</b> <i>Priority is given to D-ERDW students. If space is available UZH Geography and Earth System Sciences students may attend this field course at full cost.</i>	W+	3 credits	6P	W. Behr
	<i>No registration through myStudies. The registration for excursions and field courses goes through <a href="http://exkursionen.erdw.ethz.ch">http://exkursionen.erdw.ethz.ch</a> only.</i>				
651-4132-00 P	Field Course IV: Non Alpine Field Course <i>Does not take place this semester.</i>			90s hrs	

#### ▶▶▶▶ Structural Geology: Courses of Choice

Number	Title	Type	ECTS	Hours					Lecturers
<b>651-4111-00L</b>	<b>Experimental Rock Physics and Deformation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					<b>A. S. Zappone</b> , C. Madonna, L. Tokle
651-4111-00 G	Experimental Rock Physics and Deformation			2 hrs	Tue	10-12	NO E11		
	<i>Lecture, practical exercises, research-based term project</i>								
<b>651-3521-00L</b>	<b>Tectonics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					<b>W. Behr</b> , <b>S. Willett</b>
651-3521-00 V	Tectonics			2 hrs	Fri	14-16	NO C6		

#### ▶▶ Open Choice Modules Geology

#### ▶▶▶ Basin Analysis

#### ▶▶▶▶ Basin Analysis: Compulsory Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>651-4341-00L</b>	<b>Source to Sink Sedimentary Systems</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					



651-4341-00 G	Source to Sink Sedimentary Systems <i>Excursion on October 8-10, 2021</i>	28s hrs	Mon/1 Thu/1	14-16 10-12	NO E51.1 NO E51.1	T. I. Eglinton, J. Hemingway, S. Willett
---------------	------------------------------------------------------------------------------	---------	----------------	----------------	----------------------	---------------------------------------------

### ▶▶▶▶ Basin Analysis: Courses of Choice

Number	Title	Type	ECTS	Hours	Lecturers	
651-4243-00L	Seismic Stratigraphy and Facies	W	2 credits	3G	G. Eberli	
651-4243-00 G	Seismic Stratigraphy and Facies <i>Block course</i>			40s hrs		

### ▶▶▶ Earthquake Seismology

#### ▶▶▶▶ Earthquake Seismology: Compulsory Courses

Number	Title	Type	ECTS	Hours	Lecturers	
651-4021-00L	Engineering Seismology	W+	3 credits	2G	D. Fäh, V. Perron	
651-4021-00 G	Engineering Seismology			2 hrs		
651-4015-00L	Earthquakes I: Seismotectonics	O	3 credits	2G	A. P. Rinaldi, T. Diehl	
651-4015-00 G	Earthquakes I: Seismotectonics			28s hrs		

#### ▶▶▶▶ Earthquake Seismology: Compulsory Courses

*One additional elective course of at least 3KP has to be completed for this Module according to prior agreement with the Subject Advisor (Autumn or Spring Semester).*

### ▶▶▶ Geographic Information Systems

*The courses of this module are offered by UZH and must be registered at UZH.*

#### ▶▶▶▶ Geographic Information Systems: Compulsory Courses

Number	Title	Type	ECTS	Hours	Lecturers	
651-4267-00L	Specializing in Geographic Information Science V (University of Zürich) <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO372</i>	W+	5 credits	2V+2U	University lecturers	
651-4267-00 V	Vertiefung Geographische Informationswissenschaft (Universität Zürich) <i>**Kurs an der Universität Zürich**</i>			2 hrs		
651-4267-00 U	Vertiefung Geographische Informationswissenschaft (Universität Zürich) <i>**Kurs an der Universität Zürich**</i>			2 hrs	University lecturers	

#### ▶▶▶▶ Geographic Information Systems: Courses of Choice

*The Courses of Choice are offered by UZH and must be approved by the subject advisor.*

### ▶▶▶ Geomagnetism

#### ▶▶▶▶ Geomagnetism: Compulsory Courses

*Courses are only offered in spring semester.*

Number	Title	Type	ECTS	Hours	Lecturers	
651-4901-00L	Quaternary Dating Methods	O	3 credits	2G	I. Hajdas, M. Christl, S. Ivy Ochs	
651-4901-00 G	Quaternary Dating Methods			2 hrs		

#### ▶▶▶▶ Geomagnetism: Courses of Choice

*Additional elective courses of at least 6KP have to be completed for this Module according to prior agreement with the Subject Advisor (Autumn or Spring Semester).*

### ▶▶▶ Glaciology

#### ▶▶▶▶ Glaciology: Compulsory Courses

Number	Title	Type	ECTS	Hours	Lecturers	
651-3561-00L	Cryosphere	W+	3 credits	2V	M. Huss, A. Bauder, D. Farinotti	
651-3561-00 V	Kryosphäre			2 hrs		

#### ▶▶▶▶ Glaciology: Courses of Choice

Number	Title	Type	ECTS	Hours	Lecturers	
651-1581-00L	Seminar in Glaciology	W	3 credits	2S	A. Bauder	
651-1581-00 S	Seminar in Glaciology <i>Format and topics will be introduced in the first session on 22 September 2021. Attendance is required.</i>			2 hrs		
651-4077-00L	Quantification and Modeling of the Cryosphere: Dynamic Processes (University of Zurich) <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at</i>	W	3 credits	1V		

UZH as an incoming student.  
UZH Module Code: GEO815

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

651-4077-00 V	Quantification and Modeling of the Cryosphere: Dynamic Processes (University of Zurich) **Course at University of Zurich**	1 hrs						University lecturers
<b>651-4101-00L</b>	<b>Physics of Glaciers</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
651-4101-00 G	Physics of Glaciers			3 hrs	Mon	12-15	ML E12	<b>M. Lüthi, F. T. Walter, M. Werder</b>
<b>101-0289-00L</b>	<b>Applied Glaciology</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>				
101-0289-00 G	Applied Glaciology			2 hrs	Wed	08-10	HIL E8	<b>D. Farinotti, A. Bauder, M. Werder</b>

### ►►► Lithosphere Structure and Tectonics

Number	Title	Type	ECTS	Hours				Lecturers
651-3521-00L	Tectonics	W+	3 credits	2V				W. Behr, S. Willett
651-3521-00 V	Tectonics			2 hrs	Fri	14-16	NO C6	

### ►►► Palaeontology

#### ►►►► Palaeontology: Compulsory Courses

The compulsory courses take place in spring semester.

#### ►►►► Palaeontology: Courses of Choice

The courses of choice are offered by UZH and must be registered at UZH.

Number	Title	Type	ECTS	Hours	Lecturers
651-1380-00L	<p><b>Paleontological Excursions on Weekends (University of Zürich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO279</i></p> <p><i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i></p>	W	1 credit	1P	University lecturers
651-1380-00 P	<p>Paläontologische Exkursionen an Wochenenden (Universität Zürich) <b>**Kurs an der Universität Zürich**</b></p>			8s hrs	

### ►►► Quaternary Geology and Geomorphology

Number	Title	Type	ECTS	Hours					Lecturers
651-4901-00L	Quaternary Dating Methods	W	3 credits	2G					I. Hajdas, M. Christl, S. Ivy Ochs
651-4901-00 G	Quaternary Dating Methods			2 hrs	Tue 12.10.	08-10 08-10	NO E11 HPK D24.2		
651-4077-00L	Quantification and Modeling of the Cryosphere: Dynamic Processes (University of Zurich) <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO815</i>	W	3 credits	1V					University lecturers
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>								
651-4077-00 V	Quantification and Modeling of the Cryosphere: Dynamic Processes (University of Zurich) <i>**Course at University of Zurich**</i>			1 hrs					

### ►►► Remote Sensing

The courses of this module are offered by UZH and must be registered at UZH.

#### ►►►► Remote Sensing: Compulsory Courses

Number	Title	Type	ECTS	Hours	Lecturers
651-4263-00L	<b>Remote Sensing and Geographic Information Science V (University of Zürich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO371</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W+	5 credits	2V+2U	University lecturers
651-4263-00 V	Methoden der Fernerkundung (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			2 hrs	

### ►►► Remote Sensing: Courses of Choice

Number	Title	Type	ECTS	Hours	Lecturers
651-4269-00L	<b>Specialisation in Remote Sensing: Spectroscopy of the Earth System (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich.  Book the corresponding module directly at UZH as an incoming student.  UZH Module Code: GEO442</i>  <i>Prerequisite: Remote Sensing Methods (UZH Module Code: GEO371)</i>  <i>Mind the enrolment deadlines at UZH:  <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	6 credits	2V+2U	
651-4269-00 V	Spectroscopy of the Earth System (University of Zurich) <b>**Course at University of Zurich**</b>			2 hrs	University lecturers
651-4269-00 U	Spectroscopy of the Earth System (University of Zurich) <b>**Course at University of Zurich**</b>			2 hrs	University lecturers
651-4257-00L	<b>Specialisation in Remote Sensing: SAR and LIDAR (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich.  Book the corresponding module directly at UZH as an incoming student.  UZH Module Code: GEO443</i>  <i>Prerequisite: Remote Sensing Methods (UZH Module Code: GEO0371)</i>  <i>Mind the enrolment deadlines at UZH:  <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	6 credits	2V+2U	
651-4257-00 V	SAR and LIDAR (University of Zurich) <b>**Course at University of Zurich**</b>			2 hrs	University lecturers
651-4257-00 U	SAR and LIDAR (University of Zurich) <b>**Course at University of Zurich**</b>			2 hrs	University lecturers

### ►►► Shallow Earth Geophysics

*Courses are only offered in spring semester.*

### ►►► Modules from the Engineering Geology Major

*Choice from Engineering Geology Required Modules*

### ►►► Modules from the Geophysics Major

*Choice from Geophysics Compulsory Modules*

*Choice from Geophysics Restricted Choice Modules*

### ►►► Modules from the Mineralogy and Geochemistry Major

*Choice from the Mineralogy and Geochemistry Restricted Choice Modules*

### ►►► Modules from the Major Geology Restricted Choice Modules

*Choice from the Geology Restricted Choice Modules*

### ► Major in Engineering Geology

### ►► Compulsory Modules Engineering Geology

### ►►► Engineering Geology: Fundamentals

Number	Title	Type	ECTS	Hours	Lecturers
651-4025-00L	<b>Rock Mechanics and Rock Engineering</b>	O	4 credits	4V	
651-4025-00 V	Rock Mechanics and Rock Engineering			4 hrs	Tue 08-12 NO E39
651-4033-00L	<b>Soil Mechanics and Foundation Engineering</b>	O	4 credits	3V	
651-4033-00 V	Soil Mechanics and Foundation Engineering <i>Permission from lecturers required for all students  Lecture: every Friday from 9 - 11 h  Exercise and tutorial: 11 - 12 h</i>			3 hrs	Fri 09-11 11-12 NO D11 NO D11
651-4023-00L	<b>Groundwater</b>	O	4 credits	4G	
651-4023-00 G	Groundwater			4 hrs	Mon Thu 16-18 08-10 NO E39 NO C44

### ►►► Engineering Geology: Methods

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4065-00L</b>	<b>Geological Site Investigations</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>				
651-4065-00 G	Geological Site Investigations			3 hrs	Mon	10-13	CAB G52	<b>M. Ziegler</b>
<b>651-4125-00L</b>	<b>Rock and Soil Mechanical Lab Practical</b>	<b>O</b>	<b>3 credits</b>	<b>2P</b>				
651-4025-00 P	Lab Practical of Rock Mechanics and Rock Engineering			14s hrs	Fri/1	14-18	NO G39.3	<b>O. Moradian</b>
651-4033-00 P	Lab Practical of Soil Mechanics and Foundation Engineering			14s hrs	Fri/2	14-18	NO G39.3	<b>L. de Palézieux dit Falconnet</b>
<i>Detailed information on the lab will be given during the lecture.</i>								

### ►►► Engineering Geology: Integration

*Courses for this Module take place in spring semester.*

### ►►► Engineering Geology: Industrial Internship

Number	Title	Type	ECTS	Hours	Lecturers
651-4071-00L	<b>Industrial Internship</b> <i>Prerequisites: successful participation in all 3 compulsory modules of the Major in Engineering Geology (Fundamentals, Methods and Integration).</i>  <i>The Industrial Internship of the Eng Geol Major takes place in the second MSc year after consultation with Dr. Ernst Kreuzer. Detailed regulations of this practical are published on the Engineering Geology Website.</i>	O	12 credits		
651-4071-00 P	Industriepraktikum ■ <i>Permission from lecturers required for all students</i>			by appt.	external organisers

### ► Major in Geophysics

### ►► Compulsory Modules Geophysics

### ►►► Geophysics: Methods I

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4005-00L</b>	<b>Geophysical Data Processing</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4005-00 G	Geophysical Data Processing			28s hrs	Wed/1 Thu/1	10-12 14-16	NO E39 NO E39	<b>C. V. Cauzzi, L. Passarelli</b>
<b>651-4241-00L</b>	<b>Numerical Modelling I and II: Theory and Applications</b>	<b>W+</b>	<b>6 credits</b>	<b>4G</b>				
651-4241-00 G	Numerical Modeling I: Theory			24s hrs	Mon/1	08-12	NO F39	<b>T. Gerya</b>
651-4241-01 G	Numerical Modeling II: Applications			28s hrs	Mon/2	08-12	NO F39	<b>T. Gerya</b>

### ►►► Geophysics: Methods II

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4001-00L</b>	<b>Geophysical Fluid Dynamics</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4001-00 G	Geophysical Fluid Dynamics			2 hrs	Wed	08-10	NO C44	<b>J. A. R. Noir</b>
<b>651-4007-00L</b>	<b>Continuum Mechanics</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
651-4007-00 V	Continuum Mechanics			2 hrs	Wed	14-16	NO E51.1	<b>T. Gerya</b>
<b>651-4130-00L</b>	<b>Mathematical Methods</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4130-00 G	Mathematical Methods			2 hrs	Fri	10-12	NO E11	<b>A. Kuvshinov, A. Grayver</b>

### ►► Restricted Choice Modules Geophysics

### ►►► Seismology

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4014-00L</b>	<b>Seismic Waves II</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4014-00 G	Seismic Waves II			2 hrs	Tue	10-12	ML F40	<b>T. Diehl, F. Lanza, A. Obermann</b>
<i>Remark: former title until HS 2020: Tomographic Imaging</i>								
<b>651-4015-00L</b>	<b>Earthquakes I: Seismotectonics</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4015-00 G	Earthquakes I: Seismotectonics			28s hrs	Wed/2 Thu/2	10-12 14-16	NO E39 NO D11	<b>A. P. Rinaldi, T. Diehl</b>
<b>651-4021-00L</b>	<b>Engineering Seismology</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4021-00 G	Engineering Seismology			2 hrs	Mon	14-16	HG D3.2	<b>D. Fäh, V. Perron</b>

### ►►► Physics of the Earth's Interior

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4010-00L</b>	<b>Planetary Physics and Chemistry</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
651-4010-00 G	Planetary Physics and Chemistry			2 hrs	Tue	14-16	NO F39	<b>P. Tackley</b>

### ►►► Applied Geophysics

### ►►►► Applied Geophysics: Compulsory Courses

*The compulsory courses take place in spring semester.*

### ►►►► Applied Geophysics: Courses of Choice

*The compulsory courses take place in spring semester.*

## ► Major in Mineralogy and Geochemistry

### ►► Compulsory Module in Analytical Methods in Earth Sciences

*Students have to complete 6 credits in part A (microscopy courses), and 6 credits in part B (methods).*

#### ►►► Microscopy Courses

*Compulsory Module in Analytical Methods  
in Earth Sciences: Microscopy Courses*

#### ►►► Analytical Methods Courses

*Compulsory Module in Analytical Methods  
in Earth Sciences: Analytical Methods  
Courses*

### ►► Restricted Choice Modules Mineralogy and Geochemistry

*A minimum of two restricted choice modules must be completed in the major Mineralogy and Geochemistry.*

#### ►►► Mineralogy and Petrology

##### ►►►► Mineralogy and Petrology: Compulsory Courses

Number	Title	Type	ECTS	Hours					Lecturers
651-4028-00L	Physical Properties of Minerals	W+	3 credits	2G					S. Petitgirard, G. Spiekermann
651-4028-00 G	Physical Properties of Minerals			28s hrs	Mon/1 Tue/1	10-12 14-16	NO D69 NO D69		
651-4039-00L	Thermodynamics Applied to Earth Materials	W+	3 credits	2G					J. Connolly
651-4039-00 G	Thermodynamics Applied to Earth Materials			2 hrs	Tue	10-12	NO C44		

##### ►►►► Mineralogy and Petrology: Courses of Choice

Number	Title	Type	ECTS	Hours					Lecturers
651-4063-00L	X-Ray Powder Diffraction <i>Number of participants limited to 18.</i>	W	3 credits	2G					M. Plötze
651-4063-00 G	X-Ray Powder Diffraction <i>Permission from lecturers required for all students Vorlesung: 27.9. - 18.10.2021 und zusätzlich 20.12.2021 Übungen: 25.10.2021 - 24.12.2021 (HIL E15.2)</i>			2 hrs	Mon Mon/1 20.12.	08-10 08-10 08-10	HIL E15.2 HIL F10.3 HIL F10.3		
651-4233-00L	Geotectonic Environments and Deep Global Cycles	W	3 credits	2V					
651-4233-00 V	Geotectonic Environments and Deep Global Cycles <i>Does not take place this semester.</i>			2 hrs					M. W. Schmidt, P. Ulmer
651-4097-00L	Applied Mineralogy and Non-Metallic Resources I	W	3 credits	2G					R. Kündig
651-4097-00 G	Applied Mineralogy and Non-Metallic Resources I <i>The lecture starts in the second week of the semester.</i>			2 hrs	Thu	08-10	NO E39		

#### ►►► Petrology and Volcanology

##### ►►►► Petrology and Volcanology: Compulsory Courses

*The compulsory courses take place in spring semester.*

##### ►►►► Petrology and Volcanology: Courses of Choice

Number	Title	Type	ECTS	Hours					Lecturers
651-4063-00L	X-Ray Powder Diffraction <i>Number of participants limited to 18.</i>	W	3 credits	2G					M. Plötze
651-4063-00 G	X-Ray Powder Diffraction <i>Permission from lecturers required for all students</i> <i>Vorlesung: 27.9. - 18.10.2021 und zusätzlich 20.12.2021</i> <i>Übungen: 25.10.2021 - 24.12.2021 (HIL E15.2)</i>			2 hrs	Mon	08-10	HIL E15.2		
					Mon/1	08-10	HIL F10.3		
					20.12.	08-10	HIL F10.3		
651-4233-00L	Geotectonic Environments and Deep Global Cycles	W	3 credits	2V					M. W. Schmidt, P. Ulmer
651-4233-00 V	Geotectonic Environments and Deep Global Cycles <i>Does not take place this semester.</i>			2 hrs					

#### ►►► Mineral Resources

##### ►►►► Mineral Resources: Compulsory Courses

Number	Title	Type	ECTS	Hours					Lecturers
651-4097-00L	Applied Mineralogy and Non-Metallic Resources I	W+	3 credits	2G					R. Kündig
651-4097-00 G	Applied Mineralogy and Non-Metallic Resources I <i>The lecture starts in the second week of the semester.</i>			2 hrs	Thu	08-10	NO E39		
651-4037-00L	Mineral Resources I <i>Can be chosen as an elective course within the Bachelor. Prospective MSc-Students attending the module "Mineral Resources" should attend Mineral Resources I and II in the first year of their MSc studies.</i>	W+	3 credits	2G					C. Chelle-Michou, P. Tollan
651-4037-00 G	Mineral Resources I			2 hrs	Wed	14-16	NO D11		

## ▶▶▶▶ Mineral Resources: Courses of Choice

Number	Title	Type	ECTS	Hours					Lecturers
651-4069-00L	Fluid and Melt Inclusions: Theory and Practice	W	3 credits	3P					T. Driesner, to be announced
651-4069-00 P	Fluid and Melt Inclusions: Theory and Practice <i>Does not take place this semester. 5-day block course</i>			40s hrs					
651-4221-00L	Numerical Modelling of Ore Forming Hydrothermal Processes	W	3 credits	2G					T. Driesner
651-4221-00 G	Numerical Modelling of Ore Forming Hydrothermal Processes			2 hrs	Wed	10-12	NO E11		
651-4034-00L	Resource Economics and Mineral Exploration <i>Block course 10 - 19 January 2022 at University of Geneva.</i>  <i>Restricted participation with priority for MSc Earth Science students taking the Module 'Mineral Resources and Applied Mineralogy'. Interested ETH students please register through myStudies by second semester week.</i>	W	3 credits	3P					G. Beaudoin, C. Chelle-Michou
651-4034-00 P	Resource Economics and Mineral Exploration <i>Permission from lecturers required for all students</i>			48s hrs					

## ▶▶▶ Geochemistry

### ▶▶▶▶ Geochemistry: Compulsory Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>651-4049-00L</b>	<b>Conceptual and Quantitative Methods in Geochemistry</b> <i>Prerequisite: Successful completion of the BSc-course "Geochemistry" (651-3400-00L).</i>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>O. Bachmann</b> , <b>G. De Souza</b> , B. J. Peters
651-4049-00 G	Conceptual and Quantitative Methods in Geochemistry			2 hrs	Fri	08-10	NO D39 NO E11		
<b>651-4227-00L</b>	<b>Planetary Geochemistry</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>M. Schönbächler</b> , H. Busemann, A. Hunt
651-4227-00 G	Planetary Geochemistry			2 hrs	Thu	10-12	NO E39		

### ▶▶▶▶ Geochemistry: Courses of Choice

Number	Title	Type	ECTS	Hours					Lecturers
651-4233-00L	Geotectonic Environments and Deep Global Cycles	W	3 credits	2V					M. W. Schmidt, P. Ulmer
651-4233-00 V	Geotectonic Environments and Deep Global Cycles <i>Does not take place this semester.</i>			2 hrs					
651-4057-00L	Climate History and Palaeoclimatology	W	3 credits	2G					H. Stoll, I. Hernández Almeida, H. Zhang
651-4057-00 G	Climate History and Palaeoclimatology			2 hrs	Fri	10-12	ML F39		
651-4225-00L	Topics in Geochemistry	W	3 credits	2G					S. Bernasconi, to be announced
651-4225-00 G	Topics in Geochemistry <i>Does not take place this semester.</i>			2 hrs					
651-4010-00L	Planetary Physics and Chemistry	W	3 credits	2G					P. Tackley
651-4010-00 G	Planetary Physics and Chemistry			2 hrs	Tue	14-16	NO F39		
651-4229-00L	Advanced Geochronology	W	3 credits	2G					M. Guillong, H. Busemann, M. G. Fellin, J.-F. Wotzlaw
651-4229-00 G	Advanced Geochronology			2 hrs	Mon	16-18	NO C44		

## ▶▶ Open Choice Modules Mineralogy and Geochemistry

### ▶▶▶ Modules from the Geology Major

*Choice from the Geology Restricted Choice Modules*

*Choice from the Geology Open Choice Modules*

### ▶▶▶ Modules from the Engineering Geology Major

*Modules from the Engineering Geology Compulsory Modules*

### ▶▶▶ Modules from the Geophysics Major

*Modules from the Geophysics Compulsory Modules*

*Modules from the Geophysics Restricted Choice Modules*

## ▶▶▶ Restricted Choice Module of Mineralogy and Geochemistry

Choice from Mineralogy and Geochemistry  
Restricted Choice Modules

Choice from Mineralogy and Geochemistry  
Open Choice Modules

## ► Electives

Courses can be chosen from the complete offerings of the ETH Zurich and University of Zurich (according to prior agreement with the subject advisor).

Number	Title	Type	ECTS	Hours				Lecturers		
<b>651-1615-00L</b>	<b>Colloquium Geophysics</b>	<b>W</b>	<b>1 credit</b>	<b>1K</b>					<b>A. Obermann</b>	
651-1615-00 K	Colloquium Geophysics <i>The colloquium starts at 12:00</i>			1 hrs	Fri	12-13	NO C44			
<b>651-0046-00L</b>	<b>Electron Microprobe Course 1 - Theory</b>	<b>W Dr</b>	<b>2 credits</b>	<b>2G</b>					<b>J. Allaz, L. Grafulha Morales</b>	
651-0046-00 G	Electron Microprobe Course 1 - Theory			2 hrs	Wed	16-18	NO E39			
<b>651-0048-00L</b>	<b>Electron Microprobe Course 2 - Practice</b>	<b>W Dr</b>	<b>2 credits</b>	<b>2G</b>					<b>J. Allaz</b>	
651-0048-00 G	Electron Microprobe Course 2 - Practice ■ <i>4-day Block course in January / February (former title: Electron Microprobe Course)</i>			32s hrs						
<b>651-1851-00L</b>	<b>Introduction to Scanning Electron Microscopy</b>	<b>W</b>	<b>1 credit</b>	<b>2G</b>						
651-1851-00 G	<i>Course is replaced by 651-0046-00, it will no longer take place.</i> Introduction to Scanning Electron Microscopy <i>Does not take place this semester.</i>			2 hrs						
<b>327-0703-00L</b>	<b>Electron Microscopy in Material Science</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					<b>K. Kunze, R. Erni, S. Gerstl, F. Gramm, A. Käch, F. Krumeich, M. Willinger</b> <b>K. Kunze, R. Erni, S. Gerstl, F. Gramm, A. Käch, F. Krumeich, M. Willinger</b>	
327-0703-00 V	Electron Microscopy in Material Science			2 hrs	Fri	08-10	HCI H2.1			
327-0703-00 U	Electron Microscopy in Material Science			2 hrs	Fri	12-14	HCI H2.1			
<b>651-3541-00L</b>	<b>Exploration and Environmental Geophysics</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					<b>P. Edme, H. Maurer, A. Shakas</b>	
651-3541-00 V	Exploration and Environmental Geophysics			3 hrs	Thu	14-17	NO F39			
<b>651-4086-00L</b>	<b>Experimental Methods in Petrology</b>	<b>W</b>	<b>3 credits</b>	<b>2P</b>					<b>C. Liebske, P. A. Sossi</b>	
651-4086-00 P	Experimental Methods in Petrology			28s hrs	Tue/1	14-18	NO E51.1			
<b>651-4114-00L</b>	<b>Illustrations in Natural History (University of Zürich)</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>						
	<i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO271</i>									
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>									
651-4114-00 V	Illustrations in Natural History (University of Zürich) <b>**Kurs an der Universität Zürich**</b>			1 hrs					University lecturers	
<b>651-4273-00L</b>	<b>Numerical Modelling in Fortran</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					<b>P. Tackley</b>	
651-4273-00 V	Numerical Modelling in Fortran			2 hrs	Mon	16-18	NO C6			
<b>651-4273-01L</b>	<b>Numerical Modelling in Fortran (Project)</b>	<b>W</b>	<b>1 credit</b>	<b>1U</b>					<b>P. Tackley</b>	
651-4273-01 U	<i>Prerequisite: 651-4273-00L Numerical Modelling in Fortran</i> Numerical Modelling in Fortran (Project)			1 hrs	by appt.					
<b>651-1392-00L</b>	<b>Palaeontological Colloquium (University of Zurich)</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>						
	<i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO571</i>									
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>									
651-1392-00 K	Palaeontological Colloquium (University of Zurich) <b>**Course at University of Zurich**</b>			1 hrs					University lecturers	
<b>651-4101-00L</b>	<b>Physics of Glaciers</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					<b>M. Lüthi, F. T. Walter, M. Werder</b>	
651-4101-00 G	Physics of Glaciers			3 hrs	Mon	12-15	ML E12			
<b>651-0254-00L</b>	<b>Seminar Geochemistry and Petrology</b>	<b>E-</b>	<b>0 credits</b>	<b>2S</b>					<b>O. Bachmann, M. Schönbächler, C. Chelle-Michou, M. W. Schmidt, D. Vance</b>	
651-0254-00 S	Seminar Geochemistry and Petrology <i>External and occasional internal speakers addressing current research topics. Changing programs announced through the event calendar of the department of Earth Sciences on <a href="http://www.geopetro.ethz.ch/news-events.html">http://www.geopetro.ethz.ch/news-events.html</a></i>			2 hrs	Thu	16-18	NO C6			

<b>651-1692-00L</b>	<b>Seminar in Applied and Environmental Geophysics</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>					<b>H. Maurer, J. Robertsson</b>
651-1692-00 S	Seminar in Angewandter Geophysik und Umweltgeophysik			1 hrs	by appt.				
<b>651-2915-00L</b>	<b>Seminar in Hydrology</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>					<b>P. Burlando, J. W. Kirchner, S. Löw, C. Schär, M. Schirmer, S. I. Seneviratne, M. Stähli, C. H. Stamm, University lecturers</b>
651-2915-00 S	Seminar in Hydrology			8s hrs					
<b>651-1694-00L</b>	<b>Seminar in Seismology</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>					<b>S. Wiemer, D. Fäh, D. Giardini</b>
651-1694-00 S	Seminar in Seismology <i>The course has been rescheduled as a monthly seminar</i>			1 hrs					
<b>101-0317-00L</b>	<b>Tunnelling I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					<b>G. Anagnostou, E. Pimentel</b>
101-0317-00 G	Untertagbau I			2 hrs	Tue	10-12	HIL E7		
<b>651-1091-00L</b>	<b>Colloquium Department Earth Sciences</b>	<b>E- Dr</b>	<b>0 credits</b>	<b>1K</b>					<b>A. Fichtner, J. Hemingway</b>
651-1091-00 K	Colloquium Department Earth Sciences			1 hrs	Tue	12-13	NO C60		
<b>651-2613-00L</b>	<b>Humangeography III (Geographies of Difference) (Universität Zürich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO232</i>  <i>Recommended prerequisite: Human Geography II (UZH Module Code: GEO122)</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>5 credits</b>	<b>1G+2S</b>					University lecturers
651-2613-00 G	Humangeography III (Geographies of Difference) (University of Zurich) <b>**Kurs an der Universität Zürich**</b>			14s hrs					
651-2613-00 S	Humangeography III (Geographies of Difference) (University of Zurich) <b>**Kurs an der Universität Zürich**</b>			2 hrs					University lecturers
<b>651-2601-00L</b>	<b>Human Geography I: One Earth - Many Worlds (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO112</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U</b>					University lecturers
651-2601-00 V	Humangeographie I: Eine Erde - viele Welten (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			2 hrs					
651-2601-00 U	Übungen Humangeographie I (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			2 hrs					University lecturers
<b>651-4088-03L</b>	<b>Physical Geography III (Geomorphology and Glaciology) (University of Zürich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO231</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>5 credits</b>	<b>1V+1U</b>					University lecturers
651-4088-03 V	Physische Geographie III: Geomorphologie und Glaziologie (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			14s hrs					
651-4088-03 U	Physische Geographie III: Übungen zu Physische Geographie in Gruppen (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			14s hrs					University lecturers
<b>651-4088-01L</b>	<b>Physical Geography I (Fundamentals and Spheres) (University of Zürich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO111</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U</b>					University lecturers
651-4088-01 V	Physische Geographie I: Grundzüge und Sphären (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			2 hrs					



651-4088-01 U	Physische Geographie I: Übungen zu Grundzüge und Sphären (Universität Zürich) <i>**Kurs an der Universität Zürich**</i>	2 hrs						University lecturers
<b>651-1617-00L</b>	<b>Geophysical Fluid Dynamics and Numerical Modelling Seminar</b>	<b>E- Dr</b>	<b>0 credits</b>	<b>1S</b>				
651-1617-00 S	Geophysical Fluid Dynamics and Numerical Modelling Seminar			1 hrs	Wed	12-13	NO F39	<b>P. Tackley, T. Gerya</b>
<b>651-4931-00L</b>	<b>Seminar I: Heat and Mass Transfers in Magmatology</b>	<b>W Dr</b>	<b>1 credit</b>	<b>1S</b>				
651-4931-00 S	Seminar I: Heat and Mass Transfers in Magmatology <i>Does not take place this semester. This seminar will present some of the latest developments in the dynamics of magmatic systems on Earth and other terrestrial planets.</i>			14s hrs				<b>O. Bachmann, C. Chelle-Michou</b>
<b>651-1091-02L</b>	<b>Geological Colloquium</b>	<b>E- Dr</b>	<b>0 credits</b>	<b>2K</b>				
651-1091-02 K	Geologisches Kolloquium			2 hrs	01.11. 15.11. 29.11. 13.12. 10.01.	18-20 18-20 18-20 18-20 18-20	NO C60 NO C60 NO C60 NO C60 NO C60	<b>S. Bernasconi</b>
<b>651-3280-00L</b>	<b>Earth Science Excursions</b> <i>Only for MSc and doctorate students of D-ERDW. Only for excursions that are not part of the BSc excursion program 2.-6. semester.</i>  <i>With the registration for an excursion or a field course students acknowledge having read and understood the General Terms and Conditions for Field Trips and Excursions <a href="https://www.ethz.ch/content/dam/ethz/pecial-interest/erdw/departement/dokumente/studium/exkursionen/AGB_ERDW_Exkursionen_en.pdf">https://www.ethz.ch/content/dam/ethz/pecial-interest/erdw/departement/dokumente/studium/exkursionen/AGB_ERDW_Exkursionen_en.pdf</a></i>	<b>W</b>	<b>1 credit</b>	<b>2P</b>				
651-3280-00 P	Earth Science Excursions <i>Permission from lecturers required for all students At least three excursion days must be completed.</i>			30s hrs	by appt.			<b>I. Stössel</b>
<b>651-2001-00L</b>	<b>Semester Research Project</b>	<b>W</b>	<b>3 credits</b>	<b>6A</b>				
651-2001-00 A	Semester Research Project ■ <i>Permission from lecturers required for all students</i>			90s hrs	by appt.			Lecturers
<b>651-4191-00L</b>	<b>Radionuclides as Environmental Tracers</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
651-4191-00 V	Radionuclides as Environmental Tracers			2 hrs	Tue 13.10.	10-12 14-15	NO E51.1 HPK D24.2	<b>N. Casacuberta Arola, M. Christl, L. Wacker, C. Welte</b>
<b>651-4105-00L</b>	<b>Palaeomagnetism</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
651-4105-00 G	Palaeomagnetism <i>block course</i>			28s hrs				<b>A. Biedermann</b>
<b>651-4906-00L</b>	<b>Radiocarbon Dating</b> <i>Number of participants limited to 6. Please contact the lecturer for details immediately after subscription.</i>	<b>W</b>	<b>2 credits</b>	<b>4P</b>				
651-4906-00 P	Radiocarbon Dating ■ <i>This is a lab practical course. Four days need to be spent in the lab during two consecutive weeks.</i>			60s hrs	by appt.			<b>C. Welte, L. Wacker</b>
<b>651-4145-00L</b>	<b>Seminar on Precambrian Geobiology and Biogeochemical Cycles</b>	<b>W Dr</b>	<b>1 credit</b>	<b>1S</b>				
651-4145-00 S	Seminar on Precambrian Geobiology and Biogeochemical Cycles			1 hrs	Wed	13-14	NO E11	<b>J. Hemingway, C. Magnabosco</b>
<i>Choice of courses from the complete offerings in Earth Sciences MSc</i>								

## ► GESS Science in Perspective

*see Science in Perspective: Language Courses ETH/UZH*

*see Science in Perspective: Type A: Enhancement of Reflection Capability*

*Recommended Science in Perspective (Type B) for D-ERDW.*

## ► Master's Project Proposal

Number	Title	Type	ECTS	Hours	Lecturers			
<b>651-4060-00L</b>	<b>MSc Project Proposal</b> <i>The introductory lecture on conduct as a scientist is an integral part of the course.</i>  <i>The MSc Project Proposal is only offered in autumn semester, a registration in spring semester is subject to special approval by</i>	<b>O</b>	<b>10 credits</b>	<b>21A</b>				

651-4060-00 A	the study director. MSc Project Proposal			300s hrs	by appt.	Lecturers
<b>► Master's Thesis</b>						
Number	Title	Type	ECTS	Hours		Lecturers
651-4062-00L	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme;</i> <i>c. have successful completed the MSc Project Proposal</i>	O	30 credits	64D		
651-4062-00 D	Master's Thesis ■			900s hrs	by appt.	Lecturers
<b>► Course Units for Additional Admission Requirements</b>						
<i>The courses below are only available for MSc students with additional admission requirements.</i>						
Number	Title	Type	ECTS	Hours		Lecturers
651-3050-AAL	<b>Fundamentals of Geophysics</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	6 credits	13R		
651-3050-AA R	<b>Fundamentals of Geophysics ■</b> <i>Self-study course. No presence required. Please contact the subject advisor Dr. Jérôme Noir.</i>			180s hrs		J. A. R. Noir, T. Gerya
651-3070-AAL	<b>Fundamentals of Geology</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	6 credits	13R		
651-3070-AA R	<b>Fundamentals of Geology</b> <i>Self-study course. No presence required.</i>  <i>MSc in Earth Sciences students: Please contact the study advisor Dr. Vincenzo Picotti (Major Geology) for further information.</i>			180s hrs		V. Picotti, W. Behr
651-3400-AAL	<b>Fundamentals of Geochemistry</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	6 credits	13R		
651-3400-AA R	<b>Fundamentals of Geochemistry</b> <i>Self-study course; only for those who got this as an additional requirement with their admission. Contact: Dr. Christian Liebske</i>			180s hrs		C. Liebske, P. A. Sossi
406-0243-AAL	<b>Analysis I and II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	14 credits	30R		
406-0243-AA R	<b>Analysis I and II</b> <i>Self-study course. No presence required.</i>			420s hrs		M. Akveld
406-0062-AAL	<b>Physics I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	5 credits	11R		
406-0062-AA R	<b>Physics I</b> <i>Self-study course. No presence required.</i>			150s hrs		A. Vaterlaus
651-3521-AAL	<b>Tectonics</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	E-	3 credits	6R		

651-3521-AA R	<p>Tectonics Self-study course. No presence required. Please contact Prof. T. Gerya for further information.</p>	90s hrs	T. Gerya, W. Behr
529-2001-AAL	<p><b>Chemistry I and II</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</p> <p>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</p>	E- 9 credits 19R	
529-2001-AA R	<p>Chemistry I and II Self-study course. No presence required.</p>	270s hrs	J. Cvengros
406-0603-AAL	<p><b>Stochastics (Probability and Statistics)</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</p> <p>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</p>	E- 4 credits 9R	
406-0603-AA R	<p>Stochastics (Probability and Statistics) Self-study course. No presence required.</p>	120s hrs	M. Kalisch
651-3525-AAL	<p><b>Introduction to Engineering Geology</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</p> <p>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</p>	E- 3 credits 6R	
651-3525-AA R	<p>Introduction to Engineering Geology Self-study course, based on book "Geological Engineering" and exercises. Presence only required for supervised exercises (on Tuesdays).</p>	90s hrs	S. Löw, L. de Palézieux dit Falconnet

#### Earth Sciences Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Mathematics Education Master

## ► Courses Offered

Number	Title	Type	ECTS	Hours	Lecturers			
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V				
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1	<b>E. Stern</b>
851-0238-01L	<b>Support and Diagnosis of Knowledge Acquisition Processes (EW3)</b> <i>Enrolment only possible with matriculation in Teaching Diploma (except for students of Sport Teaching Diploma, who complete the sport-specific course unit EW3) and for students who intend to enrol in the "Teaching Diploma".</i>  <i>Prerequisites: successful participation in 851-0240-00L "Human Learning (EW1)".</i>	W	3 credits	3S				
851-0238-01 S	Unterstützung und Diagnose von Wissenserwerbsprozessen (EW3) ■ <i>Bei grosser Anzahl an Teilnehmenden wird die Lehrveranstaltung in zwei Gruppen stattfinden.</i>			3 hrs	Tue	14-17	CHN D42 CHN D44	<b>P. Edelsbrunner</b> , J. Maue, C. M. Thurn

### Mathematics Education Master - Key for Type

W	Eligible for credits	Z	Courses outside the curriculum
E-	Recommended, not eligible for credits	Dr	Suitable for doctorate
O	Compulsory	W+	Eligible for credits and recommended

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Science Education Master

## ► Educational Science (for all Directions)

Number	Title	Type	ECTS	Hours					Lecturers
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	W	2 credits	2V					
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1		<b>E. Stern</b>
851-0238-01L	<b>Support and Diagnosis of Knowledge Acquisition Processes (EW3)</b> <i>Enrolment only possible with matriculation in Teaching Diploma (except for students of Sport Teaching Diploma, who complete the sport-specific course unit EW3) and for students who intend to enrol in the "Teaching Diploma".</i>  <i>Prerequisites: successful participation in 851-0240-00L "Human Learning (EW1)".</i>	W	3 credits	3S					
851-0238-01 S	Unterstützung und Diagnose von Wissenserwerbsprozessen (EW3) ■ <i>Bei grosser Anzahl an Teilnehmenden wird die Lehrveranstaltung in zwei Gruppen stattfinden.</i>			3 hrs	Tue	14-17	CHN D42 CHN D44		<b>P. Edelsbrunner</b> , J. Maue, C. M. Thurn

## ► Biological Direction

### ►► Specialised Courses

#### ►►► Introductory Courses

*Selection of courses will be agreed with the course coordinator.*

#### ►►► Spec. Courses in Respective Subject with Educational Focus

Number	Title	Type	ECTS	Hours					Lecturers
551-0973-00L	<b>Specialized Biology Course with an Educational Focus: Evolution</b>	W	6 credits	2G+13A					
551-0973-00 G	Fachwissenschaftliche Vertiefung in Biologie mit pädagogischem Fokus: Evolution ■			2 hrs	Tue	09-12	HIT K52		<b>H. Stocker</b> , Y. Barral, K. Köhler
551-0973-00 A	Fachwissenschaftliche Vertiefung in Biologie mit pädagogischem Fokus: Evolution ■			180s hrs					<b>H. Stocker</b> , Y. Barral, K. Köhler

### ►► Subject Didactics

Number	Title	Type	ECTS	Hours					Lecturers
551-0913-00L	<b>Professional Exercises in Biology</b>	W	2 credits	2U					
551-0913-00 U	Berufspraktische Übungen: biologische Schulexperimente ■ <i>7 Halbtage (Samstagsmorgen), alle 2 Wochen im Semester, Beginn in der ersten Semesterwoche Ort: KS Rychenberg, Winterthur (ev. eine Exkursion)</i>			2 hrs					<b>P. Faller</b>
551-0971-00L	<b>Subject Didactics Biology I</b> <i>Simultaneous enrolment in Introductory Internship Biology - course 551-0968-00L - is compulsory.</i>	W	4 credits	3G					
551-0971-00 G	Fachdidaktik Biologie I ■			3 hrs	Thu	16-19	LFW C4		<b>P. Faller</b>
402-0091-00L	<b>Teaching Science in Higher Education</b>	W	3 credits	1V					
402-0091-00 V	Naturwissenschaftsdidaktik auf Hochschulebene ■ <i>1 Eröffnungstreffen: 24.9. 2021 16:00, Raum: tba. Hier werden die restlichen Termine festgelegt: 4x Arbeitssitzungen (ganzer Nachmittag, 14-18 Uhr) 1x Vorlesungsbesuch Physik I (2 Stunden)</i>			20s hrs					<b>G. Schiltz</b>

## ► Chemical Direction

### ►► Specialised Courses

#### ►►► Introductory Courses

*Selection of courses will be agreed with the course coordinator.*

#### ►►► Spec. Courses in Respective Subject with Educational Focus

Number	Title	Type	ECTS	Hours					Lecturers
529-0962-00L	<b>Fundamental Aspects of Chemistry with an Educational Focus B</b> <i>Mentored Work with an Educational Focus Chemistry B for Teaching Diploma.</i>  <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module CHE406 at UZH. Examination Registration only at ETH.</i>	W	4 credits	2V					

Please mind the ETH enrolment deadlines for UZH students:  
<https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html>

529-0962-00 V Vertiefte Grundlagen der Chemie B für Lehrdiplom 2 hrs Wed 18-20 HCI D8 **A. Togni, R. Alberto**  
 \*\*gemeinsam mit der Universität Zürich\*\*

## ►► Subject Didactics

Number	Title	Type	ECTS	Hours				Lecturers
529-0950-00L	<b>Subject Didactics Chemistry I</b> Simultaneous enrolment in Introductory Internship Chemistry - course 529-0966-00L - is compulsory.	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
529-0950-00 G	Fachdidaktik Chemie I ORT: Lageplan: <a href="http://fdchemie.pbworks.com/w/page/45801830/Übersicht%20und%20Organisation">http://fdchemie.pbworks.com/w/page/45801830/Übersicht%20und%20Organisation</a>			3 hrs	Fri	15-18		<b>A. Baertsch</b>
402-0091-00L	<b>Teaching Science in Higher Education</b>	<b>W</b>	<b>3 credits</b>	<b>1V</b>				
402-0091-00 V	Naturwissenschaftsdidaktik auf Hochschulebene ■ 1 Eröffnungstreffen: 24.9. 2021 16:00, Raum: tba. Hier werden die restlichen Termine festgelegt: 4x Arbeitssitzungen (ganzer Nachmittag, 14-18 Uhr) 1x Vorlesungsbesuch Physik I (2 Stunden)			20s hrs				<b>G. Schiltz</b>

## ► Physical Direction

## ►► Specialised Courses

## ►►► Introductory Courses

Selection of courses will be agreed with the course coordinator.

## ►►► Spec. Courses in Respective Subject with Educational Focus

Number	Title	Type	ECTS	Hours				Lecturers
402-0737-00L	<b>Energy and Sustainability in the 21st Century (Part I)</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0737-00 V	Energy and Sustainability in the 21st Century (Part I)			2 hrs	Fri	09-11	HIT F32	<b>P. Morf</b>
402-0737-00 U	Energy and Sustainability in the 21st Century (Part I)			1 hrs	Fri	11-12	HIT F32	<b>P. Morf</b>
					24.09.	08-12	HIT F12	

## ►► Subject Didactics

Number	Title	Type	ECTS	Hours				Lecturers
402-0910-00L	<b>Physics Didactics I: Special Didactics of Physics Teaching</b> Limited number of participants. Further information is available from the lecturer via email: <a href="mailto:mamohr@ethz.ch">mamohr@ethz.ch</a>  Simultaneous enrolment in Introductory Internship Physics - course 402-0920-00L - is compulsory for Teaching Diploma Physic  Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module 090Phy1 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
402-0910-00 G	Fachdidaktik Physik I: Spezielle Didaktik des Physikunterrichts ■ **gemeinsam mit der Universität Zürich**  Zeit: Wöchentlich 15:30-18:00 Ort: Kantonsschule Zürcher Oberland, Schellerstrasse 18, 8620 Wetzikon, Zimmer 2.24  Blockveranstaltung am 7.10. Daten: keine Veranstaltung am 14.10. und 21.10. schriftliche Anmeldung bis 31.8.			3 hrs	Thu	15-18	Ex tern	<b>M. Mohr</b>
402-0091-00L	<b>Teaching Science in Higher Education</b>	<b>W</b>	<b>3 credits</b>	<b>1V</b>				
402-0091-00 V	Naturwissenschaftsdidaktik auf Hochschulebene ■ 1 Eröffnungstreffen: 24.9. 2021 16:00, Raum: tba. Hier werden die restlichen Termine festgelegt: 4x Arbeitssitzungen (ganzer Nachmittag, 14-18 Uhr) 1x Vorlesungsbesuch Physik I (2 Stunden)			20s hrs				<b>G. Schiltz</b>

## ► Natural Sciences

Number	Title	Type	ECTS	Hours				Lecturers
651-3001-00L	Dynamic Earth I	W	6 credits	4V+2U				
651-3001-00 V	Dynamische Erde I			4 hrs	Tue	14-16	NO C60	O. Bachmann, A. Fichtner, M. Schönbächler, S. Willett
					Thu	14-16	NO C60	
651-3001-00 U	Dynamische Erde I			2 hrs	Mon	08-10	NO D1	A. Galli
	Groups are selected in myStudies.						NO D11	
	Die Gruppeneinteilung wird über den Button rechts "Gruppe wählen" gemacht. Die Übungen beginnen erst in der zweiten Woche des Semesters.					10-12	NO D1	
							NO E51.1	
							NO G51.1	
						16-18	NO D1	
							NO D69	
					Tue	08-10	NO E51.1	
							NO F39	
						10-12	NO D1	
						16-18	NO D1	
							NO E11	
							NO E39	
							NO F39	
							NO G51.1	
					Wed	14-16	NO D1	
					Thu	10-12	NO D69	
						16-18	NO D1	
							NO D11	
							NO E11	
							NO E51.1	

### Science Education Master - Key for Type

W+	Eligible for credits and recommended	O	Compulsory
W	Eligible for credits	Z	Courses outside the curriculum
E-	Recommended, not eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Geography Teaching Diploma

More informations at : <https://www.ethz.ch/de/studium/didaktische-ausbildung/studienangebot-zulassung/lehrdiplom-fuer-maturitaetsschulen.html>

## ► Educational Science

Course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours				Lecturers
	see Educational Science Teaching Diploma							
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S				
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1	R. Schumacher
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S				
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40	E. Stern
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S				
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1	P. Edelsbrunner, T. Braas, C. M. Thurn
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S				
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114	M. Berkowitz Biran, T. Braas, C. M. Thurn
851-0229-00L	<b>Using Outdoor Education</b> <i>Number of participants limited to 40.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma Biology and Geography.</i>	W	1 credit	1S				
851-0229-00 S	Ausserschulische Lernorte nutzen ■ <i>Das erste Treffen findet in der 1. Semesterwoche statt. Details folgen.</i>			15s hrs				R. Schumacher, P. Faller

## ► Subject Didactics in Geography

Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.

Number	Title	Type	ECTS	Hours	Lecturers		
651-4239-00L	<b>Didactics Geography I (University of Zurich)</b>	O	3 credits	2G			



No enrolment to this course at ETH Zurich.  
Book the corresponding module directly at  
UZH as an incoming student.  
UZH Module Code: 090GG1

Limited number of participants.  
In addition to the course enrollment a  
registration by email is required to Dr.  
Stefan Hesske (E-Mail:  
stefan.hesske@ife.uzh.ch).

Mind the enrolment deadlines at  
UZH: [https://www.uzh.ch/cmsssl/en/studies/  
application/deadlines.html](https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html)

651-4239-00 G	Fachdidaktik Geographie I (Universität Zürich) **gemeinsam mit der Universität Zürich**		2 hrs			University lecturers
---------------	--------------------------------------------------------------------------------------------	--	-------	--	--	----------------------

Wichtig: Startveranstaltung ist wichtig und deshalb obligatorisch

651-4124-00L	<b>Examination Didactics</b>	O	1 credit	2G		
651-4124-00 G	Prüfung Fachdidaktik ■ **gemeinsam mit der Universität Zürich**			25s hrs	by appt.	S. Hesske, J. Rafflenbeul

651-4120-00L	<b>Geography Didactics IV: Mentored Project</b> Prerequisites: successful participation in Geography Didactics of Geography Teaching I, II, III	O	2 credits	4A		
--------------	----------------------------------------------------------------------------------------------------------------------------------------------------------	---	-----------	----	--	--

651-4120-00 A	Fachdidaktik Geographie IV: Mentorierter Arbeit ■ **gemeinsam mit der Universität Zürich**			60s hrs	by appt.	S. Hesske, J. Rafflenbeul
---------------	-----------------------------------------------------------------------------------------------	--	--	---------	----------	---------------------------

Bitte melden Sie sich bei den Dozierenden zwecks Einführung  
und Terminplanung.

651-4118-00L	<b>Geography Didactics of Geography Teaching III (University of Zurich)</b> No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 090GG3	O	3 credits	2G		
--------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---	-----------	----	--	--

Limited number of participants. In addition  
to the course enrollment a registration by  
email is required no later than September 1  
for autumn semester, February 1 for spring  
semester. Further details see UZH module.

Mind the enrolment deadlines at UZH:  
[https://www.uzh.ch/cmsssl/en/studies/appli  
cation/deadlines.html](https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html)

651-4118-00 G	Fachdidaktik Geographie III (Universität Zürich) **gemeinsam mit der Universität Zürich**			2 hrs		University lecturers
---------------	----------------------------------------------------------------------------------------------	--	--	-------	--	----------------------

## ► Professional Training in Geography

Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.

Number	Title	Type	ECTS	Hours		Lecturers
651-2519-01L	<b>Introductory Internship (University of Zürich)</b> No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 090BPEP	O	1 credit	2P		

Mind the enrolment deadlines at UZH:  
[https://www.uzh.ch/cmsssl/en/studies/appli  
cation/deadlines.html](https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html)

651-2519-01 P	Hospitationspraktikum (Universität Zürich) **gemeinsam mit der Universität Zürich**			30s hrs	by appt.	University lecturers
---------------	----------------------------------------------------------------------------------------	--	--	---------	----------	----------------------

651-2519-02L	<b>Practice Lessons for Didactics (University of Zurich)</b> No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 090BPUE	O	2 credits	4P		
--------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---	-----------	----	--	--

Mind the enrolment deadlines at UZH:  
[https://www.uzh.ch/cmsssl/en/studies/appli  
cation/deadlines.html](https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html)

651-2519-02 P	Übungslektionen im Rahmen der Fachdidaktik (Universität Zürich) **Kurs an der Universität Zürich**			60s hrs	by appt.	University lecturers
---------------	-------------------------------------------------------------------------------------------------------	--	--	---------	----------	----------------------

651-2517-00L	<b>Teaching Internship I Geography (University of Zürich)</b> No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 090BPP1	O	8 credits	17P		
--------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---	-----------	-----	--	--

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

651-2517-00 P	Unterrichtspraktikum I Geographie (Universität Zürich) **gemeinsam mit der Universität Zürich**	240s hrs	by appt.	University lecturers
50 Lektionen, davon 30 unterrichtet				
Es ist eine frühzeitige Anmeldung für das Praktikum erforderlich (spätester Termin für das FS: 15.12. und HS: 15.6.). Weitere Informationen unter <a href="http://www.ife.uzh.ch/de/llbm/lehrdiplomfuermaturitaetsschulen/beaufspraktischeausbildung.html">http://www.ife.uzh.ch/de/llbm/lehrdiplomfuermaturitaetsschulen/beaufspraktischeausbildung.html</a>				

651-2520-01L	<b>Examination Lesson I Geography</b> O 1 credit 2P To be completed together with Examination Lesson II 651-2520-02.			
--------------	-------------------------------------------------------------------------------------------------------------------------	--	--	--

651-2520-01 P	Prüfungslektion untere Stufe Geographie ■ **gemeinsam mit der Universität Zürich**	30s hrs	by appt.	S. Hesske, J. Rafflenbeul
---------------	---------------------------------------------------------------------------------------	---------	----------	---------------------------

651-2520-02L	<b>Examination Lesson II Geography</b> O 1 credit 2P To be completed together with Examination Lesson I 651-2520-01.			
--------------	-------------------------------------------------------------------------------------------------------------------------	--	--	--

651-2520-02 P	Prüfungslektion obere Stufe Geographie ■ **gemeinsam mit der Universität Zürich**	30s hrs	by appt.	S. Hesske, J. Rafflenbeul
---------------	--------------------------------------------------------------------------------------	---------	----------	---------------------------

651-4137-00L	<b>Semester Paper Within the 1st Teaching Internship Geography (University of Zurich)</b> O 2 credits 4P No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 090BPPJ			
--------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

651-4137-00 P	Praktikumsjournal im Rahmen des 1. Unterrichtspraktikums (Universität Zürich) **gemeinsam mit der Universität Zürich**	60s hrs	by appt.	University lecturers
---------------	---------------------------------------------------------------------------------------------------------------------------	---------	----------	----------------------

#### ► Spec. Courses in Resp. Subj. w/ Educ. Focus & Further Subj. Didactics

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

651-2517-02L	<b>Teaching Internship II-E Geography (University of Zürich)</b> O 6 credits 13P No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 090BPP2				
--------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--

An additional registration at LLBM is needed for further details refer to the module of UZH.

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

651-2517-02 P	Unterrichtspraktikum II-E Geographie (Universität Zürich) **gemeinsam mit der Universität Zürich**	180s hrs	by appt.	University lecturers
---------------	-------------------------------------------------------------------------------------------------------	----------	----------	----------------------

40 Lektionen, davon 30 unterrichtet

Es ist eine frühzeitige Anmeldung für das Praktikum erforderlich (spätester Termin für das FS: 15.12. und HS: 15.6.).  
 Weitere Informationen unter <http://www.ife.uzh.ch/de/llbm/lehrdiplomfuermaturitaetsschulen/beaufspraktischeausbildung.html>

651-4136-00L	<b>Learning Locations for Geography and Geography Didactics (University of Zurich)</b> O 3 credits 6G No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO992				
--------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

651-4136-00 G	Lernorte für Geographie und Geographiedidaktik (Universität Zürich) **gemeinsam mit der Universität Zürich**	90s hrs		University lecturers
---------------	-----------------------------------------------------------------------------------------------------------------	---------	--	----------------------

#### ► Compulsory Elective Courses

Further course offerings from the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

see Compulsory Elective Courses Teaching Diploma

<b>851-0229-00L</b>	<b>Using Outdoor Education</b> <i>Number of participants limited to 40.</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>					
	<i>Enrolment only possible with matriculation in Teaching Diploma Biology and Geography.</i>								
851-0229-00 S	Ausserschulische Lernorte nutzen ■ <i>Das erste Treffen findet in der 1. Semesterwoche statt. Details folgen.</i>			15s hrs					<b>R. Schumacher, P. Faller</b>

<b>860-0023-00L</b>	<b>International Environmental Politics</b> <i>Particularly suitable for students of D-ITET, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3		<b>T. Bernauer</b>

## ► Additional Requirements (ETH-Masterstudents in ERDW and AC)

### ►► Part 1

### ►►► Compulsory Modules

Number	Title	Type	ECTS	Hours	Lecturers				
<b>651-2601-00L</b>	<b>Human Geography I: One Earth - Many Worlds (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO112</i>	<b>O</b>	<b>5 credits</b>	<b>2V+2U</b>					
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>								
651-2601-00 V	Humangeographie I: Eine Erde - viele Welten (Universität Zürich) <i>**Kurs an der Universität Zürich**</i>			2 hrs					University lecturers
651-2601-00 U	Übungen Humangeographie I (Universität Zürich) <i>**Kurs an der Universität Zürich**</i>			2 hrs					University lecturers
<b>651-2613-00L</b>	<b>Humangeography III (Geographies of Difference) (Universität Zürich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO232</i>	<b>O</b>	<b>5 credits</b>	<b>1G+2S</b>					
	<i>Recommended prerequisite: Human Geography II (UZH Module Code: GEO122)</i>								
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>								
651-2613-00 G	Humangeography III (Geographies of Difference) (University of Zurich) <i>**Kurs an der Universität Zürich**</i>			14s hrs					University lecturers
651-2613-00 S	Humangeography III (Geographies of Difference) (University of Zurich) <i>**Kurs an der Universität Zürich**</i>			2 hrs					University lecturers

### ►►► Modules of Choice

Number	Title	Type	ECTS	Hours	Lecturers				
<b>651-2603-00L</b>	<b>Geography. Matters. (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO410</i>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>								
651-2603-00 V	Geography. Matters. (University of Zurich) <i>**Kurs an der Universität Zürich**</i>			2 hrs					University lecturers

### ►► Part 2

Number	Title	Type	ECTS	Hours	Lecturers				
<b>651-4088-03L</b>	<b>Physical Geography III (Geomorphology and Glaciology) (University of Zürich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO231</i>	<b>W</b>	<b>5 credits</b>	<b>1V+1U</b>					

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

651-4088-03 V	Physische Geographie III: Geomorphologie und Glaziologie (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>	14s hrs	University lecturers
651-4088-03 U	Physische Geographie III: Übungen zu Physische Geographie in Gruppen (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>	14s hrs	University lecturers

### ►► Part 3

Number	Title	Type	ECTS	Hours	Lecturers
651-2338-00L	<b>Remote Sensing and Geographic Information Science III (University of Zürich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO233</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>5 credits</b>	<b>2V+3U</b>	
651-2338-00 V	Grundlagen der Fernerkundung (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			2 hrs	University lecturers
651-2338-00 U	Übungen zu Grundlagen der Fernerkundung in Gruppen (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			3 hrs	University lecturers
103-0214-00L	<b>Cartography Fundamentals</b>	<b>W</b>	<b>5 credits</b>	<b>4G</b>	
103-0214-00 G	Kartografie GZ			4 hrs	Tue 14-18 HIL E7 <b>L. Hurni</b>

### Geography Teaching Diploma - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS  
 ■ European Credit Transfer and Accumulation System  
 Special students and auditors need special permission from the lecturers.

# Geomatic Engineering Master

## ► Major Courses

### ►► Major in Engineering Geodesy and Photogrammetry

Number	Title	Type	ECTS	Hours				Lecturers
<b>103-0287-00L</b>	<b>Image Interpretation</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>				
103-0287-00 G	Image Interpretation			3 hrs	Thu	09-12	HIL D53	<b>K. Schindler</b>
<b>103-0137-00L</b>	<b>Engineering Geodesy</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>				
103-0137-00 G	Engineering Geodesy			3 hrs	Tue	13-16	HIL C71.3	<b>A. Wieser, J. Qiao</b>
<b>103-0267-01L</b>	<b>Photogrammetry and 3D Vision Lab</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
	<i>Prerequisites: It is suggested that students take the course "Photogrammetrie" at bachelor level before this one.</i>							
103-0267-01 G	Photogrammetry and 3D Vision Lab			2 hrs	Fri	10-12	HIL D55.2	<b>C. Albl</b>
<b>103-0787-00L</b>	<b>Project Parameter Estimation</b>	<b>W</b>	<b>3 credits</b>	<b>3P</b>				
103-0787-00 P	Project Parameter Estimation			3 hrs	Fri	09-12	HIL C71.3	<b>J. A. Butt, T. Medic</b>
<b>102-0617-00L</b>	<b>Basics and Principles of Radar Remote Sensing for Environmental Applications</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
102-0617-00 G	Basics and Principles of Radar Remote Sensing for Environmental Applications			2 hrs	Wed	10-12	HIL E9	<b>I. Hajnsek</b>
<b>103-0687-00L</b>	<b>Cadastral Systems</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
103-0687-00 G	Cadastral Systems			2 hrs	Thu	17-19	HIT J51	<b>D. M. Steudler</b>
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-5902-00 V	Computer Vision			3 hrs	Wed	14-16	NO C60	<b>M. Pollefeys, S. Tang, F. Yu</b>
					Thu	12-13	HG G5	
263-5902-00 U	Computer Vision			1 hrs	Thu	13-14	CAB G51	<b>M. Pollefeys, S. Tang, F. Yu</b>
					Fri	13-14	CAB G51	
263-5902-00 A	Computer Vision			3 hrs				<b>M. Pollefeys, S. Tang, F. Yu</b>
<b>103-0820-00L</b>	<b>Introduction to Scientific Computation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
103-0820-00 G	Introduction to Scientific Computation			2 hrs	Wed	08-10	HIL E6	<b>M. Usvyatsov</b>
<b>851-0724-01L</b>	<b>Real Estate Property Law</b>	<b>W</b>	<b>3 credits</b>	<b>3V</b>				
	<i>Particularly suitable for students of D-ARCH, D-BAUG, D-USYS</i>							
851-0724-01 V	Immobilienachenrecht			3 hrs	Mon	17-20	HIL E7	<b>M. Huser, R. Müller-Wyss, S. Stucki</b>

### ►► Major in Space Geodesy and Navigation

Number	Title	Type	ECTS	Hours				Lecturers
<b>103-0187-01L</b>	<b>Space Geodesy</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>				
103-0187-01 G	Space Geodesy			3 hrs	Mon Tue	10-12 16-17	HIT H51 HIT H51	<b>M. Rothacher</b>
<b>103-0657-01L</b>	<b>Signal Processing, Modeling, Inversion</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
103-0657-01 G	Signal Processing, Modeling, Inversion			2 hrs	Tue	10-12	HIL D53	<b>B. Soja</b>
<b>103-0627-00L</b>	<b>Space Geodesy Lab</b>	<b>W</b>	<b>5 credits</b>	<b>3P</b>				
103-0627-00 P	Space Geodesy Lab			3 hrs	Mon	13-16	HIL D10.2	<b>G. Möller</b> , R. Hohensinn, M. Rothacher, B. Soja
<b>103-0787-00L</b>	<b>Project Parameter Estimation</b>	<b>W</b>	<b>3 credits</b>	<b>3P</b>				
103-0787-00 P	Project Parameter Estimation			3 hrs	Fri	09-12	HIL C71.3	<b>J. A. Butt</b> , T. Medic
<b>102-0617-00L</b>	<b>Basics and Principles of Radar Remote Sensing for Environmental Applications</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
102-0617-00 G	Basics and Principles of Radar Remote Sensing for Environmental Applications			2 hrs	Wed	10-12	HIL E9	<b>I. Hajnsek</b>
<b>103-0687-00L</b>	<b>Cadastral Systems</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
103-0687-00 G	Cadastral Systems			2 hrs	Thu	17-19	HIT J51	<b>D. M. Steudler</b>
<b>851-0724-01L</b>	<b>Real Estate Property Law</b>	<b>W</b>	<b>3 credits</b>	<b>3V</b>				
	<i>Particularly suitable for students of D-ARCH, D-BAUG, D-USYS</i>							
851-0724-01 V	Immobilien-sachenrecht			3 hrs	Mon	17-20	HIL E7	<b>M. Huser</b> , R. Müller-Wyss, S. Stucki

### ►► Major in GIS and Cartography

Number	Title	Type	ECTS	Hours				Lecturers
<b>103-0227-00L</b>	<b>Cartography III</b>	<b>O</b>	<b>5 credits</b>	<b>4G</b>				
103-0227-00 G	Cartography III			4 hrs	Mon	13-17	HIL G22	<b>L. Hurni</b>
<b>103-0237-00L</b>	<b>GIS III</b>	<b>O</b>	<b>5 credits</b>	<b>3G</b>				
103-0237-00 G	GIS III			3 hrs	Thu	14-17	HIL D53	<b>W. Kuhn</b>
<b>103-0747-00L</b>	<b>Cartography Lab</b>	<b>W</b>	<b>6 credits</b>	<b>13A</b>				
103-0747-00 A	Cartography Lab			180s hrs	by appt.			<b>L. Hurni</b>
<b>103-0687-00L</b>	<b>Cadastral Systems</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
103-0687-00 G	Cadastral Systems			2 hrs	Thu	17-19	HIT J51	<b>D. M. Steudler</b>

<b>103-0258-00L</b>	<b>Interoperability of GIS</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
103-0258-00 G	Interoperability of GIS			3 hrs	Fri	14-17	HIL G22	<b>J. Schito</b>	
<b>103-0778-00L</b>	<b>GIS and Geoinformatics Lab</b>	<b>W</b>	<b>4 credits</b>	<b>3P</b>					
103-0778-00 P	GIS and Geoinformatics Lab			3 hrs	Tue 21.12.	14-17 10-18	HIL D54.1 HIT E51	<b>P. Kiefer</b>	
<b>851-0724-01L</b>	<b>Real Estate Property Law</b> <i>Particularly suitable for students of D-ARCH, D-BAUG, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>3V</b>					
851-0724-01 V	Immobiliarsachenrecht			3 hrs	Mon	17-20	HIL E7	<b>M. Huser, R. Müller-Wyss, S. Stucki</b>	

## ►► Major in Planning

Number	Title	Type	ECTS	Hours					Lecturers
<b>103-0347-00L</b>	<b>Landscape Planning and Environmental Systems</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					
103-0347-00 V	Landscape Planning and Environmental Systems			2 hrs	Fri	08-10	HIL E8	<b>A. Grêt-Regamey</b>	
<b>103-0337-00L</b>	<b>Site and Project Development</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
103-0337-00 G	Standort- und Projektentwicklung			2 hrs	Fri 08.10. 15.10. 12.11.	12-14 12-14 12-14	HIL H40.9 HIT K51 HIT K51 HIT K51	<b>A. Gonzalez Martinez, M. Sudau, J. Van Wezemael</b>	
<b>103-0317-00L</b>	<b>Introduction to Spatial Development and Transformation</b> <i>Only for master students, otherwise a special permission by the lecturer is required.</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					
103-0317-00 G	Introduction to Spatial Development and Transformation			2 hrs	Tue	10-12	HIL E6	<b>M. Nollert, D. Kaufmann</b>	
<b>103-0417-02L</b>	<b>Methodology of Planning Research and Practice</b> <i>Only for master students, otherwise a special permission by the lecturer is required.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
103-0417-02 G	Methoden der Planung in Forschung und Praxis			2 hrs	Wed	14-16	HIL D60.1	<b>A. Peric Momcilovic, T. B. Hug, R. Streit</b>	
<b>101-0427-01L</b>	<b>Public Transport Design and Operations</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0427-01 G	Public Transport Design and Operations			4 hrs	Mon Thu	14-16 08-10	HIL E10.1 HIL E10.1	<b>F. Corman, F. Leutwiler</b>	
<b>101-0417-00L</b>	<b>Transport Planning Methods</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0417-00 G	Transport Planning Methods			4 hrs	Mon Wed 22.09. 27.09. 29.09. 04.10. 06.10.	10-12 10-12 10-12 10-12 10-12 10-12	HIL F36.1 HIL F36.1 HCP E47.1 HIL F10.3 HCP E47.1 HIL F10.3 HCP E47.1	<b>K. W. Axhausen</b>	
<b>103-0347-01L</b>	<b>Landscape Planning and Environmental Systems (GIS Exercises)</b>	<b>W</b>	<b>3 credits</b>	<b>2U</b>					
103-0347-01 U	Landscape Planning and Environmental Systems (GIS Exercises)			2 hrs	Wed	16-18	HIL E10.1 HIL E15.2 HIL F15.4	<b>A. Grêt-Regamey, C. Brouillet, N. Klein</b>	
<b>103-0569-00L</b>	<b>European Aspects of Spatial Development</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
103-0569-00 G	European Aspects of Spatial Development <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain available for students to follow the seminar from there.</i>			2 hrs	Tue	16-18	HIL D53	<b>A. Peric Momcilovic</b>	

## ► Electives

The entire course programs of ETH Zurich and the University of Zurich are open to the students to individual selection.

## ►► Recommended Electives of Master Degree Programme

Number	Title	Type	ECTS	Hours					Lecturers
<b>363-1065-00L</b>	<b>Design Thinking: Human-Centred Solutions to Real World Challenges</b>	<b>W</b>	<b>5 credits</b>	<b>5G</b>					
363-1065-00 G	Design Thinking: Human-Centred Solutions to Real World Challenges <i>Does not take place this semester. From FS22 in the spring semester.</i>			5 hrs				<b>S. Brusoni</b>	
<b>101-0193-00L</b>	<b>Systemic Design Labs: RE:GENERATE Alpine-Urban Circularity</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>					
101-0193-00 S	Systemic Design Labs: RE:GENERATE Alpine-Urban Circularity <i>Intro: 24.9.21, 14-17h Block (excursion/field work): 13.-17.10.21, full days Final presentation: 10.12.21, 14-17h</i>			30s hrs				<b>T. Luthe</b>	
<b>263-5905-00L</b>	<b>Mixed Reality</b>	<b>W</b>	<b>5 credits</b>	<b>3G+1A</b>					

263-5905-00 G	Mixed Reality	3 hrs	Mon	10-13	CAB G11	I. Armeni, F. Bogo, M. Pollefeys
263-5905-00 A	Mixed Reality	1 hrs				I. Armeni, F. Bogo, M. Pollefeys

## ►► Electives ETH Zurich

Course Catalogue of ETH Zurich

### ► Seminar Work

Number	Title	Type	ECTS	Hours			Lecturers
103-0817-00L	Geomatics Seminar	O	4 credits	2S			K. Schindler, K. W. Axhausen, A. Grêt-Regamey, L. Hurni, W. Kuhn, M. Rothacher, A. Wieser
103-0817-00 S	Geomatics Seminar ■			2 hrs	Mon	08-10	

### ► Interdisciplinary Project Work

Number	Title	Type	ECTS	Hours			Lecturers
103-0298-02L	Interdisciplinary Project <i>Registration via myStudies from mid-July</i>	O	12 credits	24A			Professors
103-0298-02 A	Interdisciplinary Project			330s hrs	by appt.		

### ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-BAUG.

### ► Master's Thesis

Number	Title	Type	ECTS	Hours			Lecturers
103-0009-00L	Master's Thesis <i>Before starting the Master's thesis, students must have</i> <i>a. obtained the Bachelor's degree;</i> <i>b. fulfilled all specified admission conditions, if any;</i> <i>c. acquired at least 90 credits in the Master's programme, including 12 credits in the area of the interdisciplinary project.</i>	O	24 credits	51D			Supervisors
103-0009-00 D	Master's Thesis ■ <i>Permission from lecturers required for all students</i>			720s hrs	by appt.		

### ► Course Units for Additional Admission Requirements

The courses below are only available for MSc students with additional admission requirements.

Number	Title	Type	ECTS	Hours			Lecturers
103-0132-AAL	Geodetic Metrology Fundamentals <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	E-	6 credits	13R			A. Wieser
103-0132-AA R	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i> Geodetic Metrology Fundamentals <i>Self-study course. No presence required.</i>			180s hrs			
101-0414-AAL	Transport Planning (Transportation I) <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	E-	3 credits	6R			K. W. Axhausen
101-0414-AA R	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i> Transport Planning (Transportation I) <i>Self-study course. No presence required.</i>			90s hrs			
103-0153-AAL	Cartography II <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	E-	6 credits	13R			L. Hurni
103-0153-AA R	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i> Cartography II <i>Self-study course. No presence required. References and other materials will be distributed by the supervisors.</i>			180s hrs			

<b>103-0214-AAL</b>	<b>Cartography Fundamentals</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	
103-0214-AA R	Cartography Fundamentals Self-study course. No presence required. References and other materials will be distributed by the supervisors.			150s hrs	<b>L. Hurni</b>
<b>103-0253-AAL</b>	<b>Parameter Estimation</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	
103-0253-AA R	Parameter Estimation Self-study course. No presence required.			120s hrs	<b>E. Brockmann</b>
<b>103-0254-AAL</b>	<b>Photogrammetry</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>6 credits</b>	<b>13R</b>	
103-0254-AA R	Photogrammetry Self-study course. No presence required.			180s hrs	<b>K. Schindler</b>
<b>103-0274-AAL</b>	<b>Image Processing</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>	
103-0274-AA R	Image Processing Self-study course. No presence required.			90s hrs	<b>J. D. Wegner</b>
<b>103-0313-AAL</b>	<b>Spatial Planning and Landscape Development</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	
103-0313-AA R	Spatial Planning and Landscape Development Self-study course. No presence required.			150s hrs	<b>S.-E. Rabe</b>
<b>103-0325-AAL</b>	<b>Integrated Spatial Planning in Cities and Districts</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>6 credits</b>	<b>13R</b>	
103-0325-AA R	Integrated Spatial Planning in Cities and Districts Self-study course. No presence required. References and other materials will be distributed by the supervisors.			180s hrs	<b>G. Di Carlo Alvarez</b>
<b>252-0846-AAL</b>	<b>Computer Science II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	
252-0846-AA R	Computer Science II Self-study course. No presence required.			120s hrs	<b>F. O. Friedrich Wicker, R. Sasse</b>
<b>406-0141-AAL</b>	<b>Linear Algebra</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students)</i>	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	



<b>CANNOT enrol for this course unit.</b>				
406-0141-AA R	Linear Algebra <i>Self-study course. No presence required.</i>		150s hrs	<b>M. Akka Ginosa</b>
<b>406-0242-AAL</b>	<b>Analysis II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>7 credits</b>	<b>15R</b>
406-0242-AA R	Analysis II <i>Self-study course. No presence required.</i>		210s hrs	<b>M. Akveld</b>
<b>406-0243-AAL</b>	<b>Analysis I and II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>14 credits</b>	<b>30R</b>
406-0243-AA R	Analysis I and II <i>Self-study course. No presence required.</i>		420s hrs	<b>M. Akveld</b>
<b>406-0603-AAL</b>	<b>Stochastics (Probability and Statistics)</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>
406-0603-AA R	Stochastics (Probability and Statistics) <i>Self-study course. No presence required.</i>		120s hrs	<b>M. Kalisch</b>
<b>103-0357-AAL</b>	<b>Environmental Planning</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>
103-0357-AA R	Environmental Planning <i>Self-study course. No presence required.</i>		90s hrs	<b>S.-E. Rabe</b>
<b>406-0062-AAL</b>	<b>Physics I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>5 credits</b>	<b>11R</b>
406-0062-AA R	Physics I <i>Self-study course. No presence required.</i>		150s hrs	<b>A. Vaterlaus</b>
<b>406-0063-AAL</b>	<b>Physics II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>5 credits</b>	<b>11R</b>
406-0063-AA R	Physics II <i>Self-study course. No presence required.</i>		150s hrs	<b>A. Vaterlaus</b>
<b>252-0856-AAL</b>	<b>Computer Science</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>
252-0856-AA R	Computer Science <i>Self-study course. No presence required.</i>		120s hrs	<b>F. O. Friedrich Wicker, R. Sasse</b>
<b>103-2233-AAL</b>	<b>GIS Basics</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>6 credits</b>	<b>13R</b>

103-2233-AA R	GIS Basics <i>Self-study course. No presence required.</i>			180s hrs	W. Kuhn
<b>103-0187-AAL</b>	<b>Satellite Geodesy</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>4 credits</b>	<b>3R</b>	
103-0187-AA R	Satellite Geodesy <i>Self-study course. No presence required.</i>			37s hrs	M. Rothacher
<b>103-1115-AAL</b>	<b>Geodetic Metrology and Laserscanning</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>6 credits</b>	<b>13R</b>	
103-1115-AA R	Geodetic Metrology and Laserscanning <i>Self-study course. No presence required.</i>  <i>Former title until HS20: Geodetic Measuring Technology and Laserscanning.</i>			180s hrs	A. Wieser
<b>103-1184-AAL</b>	<b>Physical and Kinematic Geodesy</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>6 credits</b>	<b>4R</b>	
103-1184-AA R	Physical and Kinematic Geodesy <i>Self-study course. No presence required.</i>			56s hrs	M. Rothacher
<b>103-0717-AAL</b>	<b>Geoinformation Technologies and Analysis</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>6 credits</b>	<b>13R</b>	
103-0717-AA R	Geoinformation Technologies and Analysis <i>Self-study course. No presence required.</i>			180s hrs	W. Kuhn
<b>103-0184-AAL</b>	<b>Higher Geodesy</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	
103-0184-AA R	Higher Geodesy <i>Self-study course. No presence required.</i>			150s hrs	M. Rothacher
<b>103-0126-AAL</b>	<b>Geodetic Reference Systems</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>	
103-0126-AA R	Geodetic Reference Systems <i>Self-study course. No presence required.</i>			90s hrs	M. Rothacher
<b>103-0255-AAL</b>	<b>Geodata Analysis</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>2 credits</b>	<b>4R</b>	
103-0255-AA R	Geodata Analysis <i>Self-study course. No presence required.</i>			60s hrs	W. Kuhn
<b>103-0234-AAL</b>	<b>GIS II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming</i>	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	

103-0234-AA R	GIS II <i>Self-study course. No presence required.</i>	150s hrs	W. Kuhn
406-0353-AAL	<b>Analysis III</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E- 4 credits 9R	
406-0353-AA R	Analysis III <i>Self-study course. No presence required.</i>	120s hrs	A. Iozzi
102-0675-AAL	<b>Earth Observation</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E- 4 credits 9R	
102-0675-AA R	Earth Observation <i>Self-study course. No presence required.</i>	120s hrs	I. Hajnsek
103-0849-AAL	<b>Multivariate Statistics and Machine Learning</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E- 4 credits 9R	
103-0849-AA R	Multivariate Statistics and Machine Learning <i>Self-study course. No presence required.</i>	120s hrs	K. Schindler

#### Geomatic Engineering Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# History and Philosophy of Knowledge Master

## ► Basic Courses

### ►► Lectures and Exercises

Number	Title	Type	ECTS	Hours					Lecturers
<b>862-0050-00L</b>	<b>Theorie and Methodology MAGPW</b> <i>Only for MA History and Philosophy of Knowledge.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
862-0050-00 G	Theorie und Methoden MAGPW			2 hrs	Thu	10-12	RZ F21		<b>F. Forster</b> , L. Schurrer
<b>851-0101-88L</b>	<b>National Socialist Persecution, International Politics on Refugees and Science 1933-1945</b> <i>Number of participants limited to 45</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0101-88 G	Nationalsozialistische Verfolgung, internationale Flüchtlingspolitik und Wissenschaft 1933-1945 <i>Does not take place this semester.</i>			2 hrs					
<b>851-0157-00L</b>	<b>Mind and Brain</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0157-00 V	Gehirn und Geist			2 hrs	Tue 28.09. 05.10.	18-20 18-20 18-20	IFW A36 HG F3 HG F3		<b>M. Hagner</b>
<b>851-0337-00L</b>	<b>African Intellectual and Artistic Presence: From "Négritude" to the "Ateliers de la pensée"</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0337-00 V	Présence intellectuelle et artistique Africaine : de la négritude aux Ateliers de la pensée			2 hrs	Tue	16-18	LFO C13		<b>F. Sarr</b>
<b>851-0499-00L</b>	<b>Globalization – Theories, Concepts, Aspects</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0499-00 V	Globalisierung – Theorien, Konzepte, Aspekte			2 hrs	Wed	18-20	IFW A32.1		<b>S. M. Scheuzger</b>
<b>851-0336-00L</b>	<b>Eros: Athens, Rome, Vienna, Paris</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0336-00 V	Eros: Atene, Roma, Vienna, Parigi			2 hrs	Thu	16-18	LFO C13		<b>G. Sissa</b>
<b>851-0101-72L</b>	<b>The Modern City and Cultural Criticism. The "Knowledge of Life" in Reform Movements 1880-1933</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0101-72 V	Moderne Grossstadt und Kulturkritik. Das "Wissen vom Leben" in den Reformbewegungen 1880-1933			2 hrs	Thu	14-16	IFW B42		<b>S. S. Leuenberger</b>
<b>851-0125-65L</b>	<b>A Sampler of Histories and Philosophies of Mathematics</b> <i>Particularly suitable for students D-CHAB, D-INFK, D-ITET, D-MATH, D-PHYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0125-65 V	A Sampler of Histories and Philosophies of Mathematics			2 hrs	Mon	16-18	ML E12		<b>R. Wagner</b>
<b>851-0197-00L</b>	<b>Medieval and Early Modern Science and Philosophy</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0197-00 V	Medieval and Early Modern Science and Philosophy			2 hrs	Thu	12-14	IFW A36		<b>E. Sammarchi</b>
<b>851-0082-00L</b>	<b>Literature and the Knowledge of the Social</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0082-00 G	Literatur und das Wissen vom Sozialen <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Thu	18-20	IFW A32.1		<b>A. Alon</b>
<b>851-0096-00L</b>	<b>Science in Society</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0096-00 G	Wissenschaft in der Gesellschaft			2 hrs	Thu	12-14	IFW A32.1		<b>L. Wingert</b>
<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0101-80 G	Grundprobleme der Umweltethik			2 hrs	Wed	16-18	HG G5		<b>L. Wingert</b>
<b>851-0101-56L</b>	<b>From Cotton to Cocaine: Commodities That Made History (c.1700-1950)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0101-56 V	From Cotton to Cocaine: Commodities That Made History (c.1700-1950)			2 hrs	Mon	12-14	IFW A36		<b>H. Fischer-Tiné</b>
<b>853-0725-00L</b>	<b>History Part One: Europe (The Cradle of Modernity, Britain, 1789-1914)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
853-0725-00 V	Geschichte I: Europa (Grossbritannien, Mutterland der Moderne, 1789-1914)			2 hrs	Wed	14-16	ML E12		<b>H. Fischer-Tiné</b>
<b>851-0020-00L</b>	<b>Gender and Science</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0020-00 V	Gender and Science			2 hrs	Tue	18-20	HG E33.1		<b>C. L. Blaser</b> , M. Ligtenberg

### ►► Seminars

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0019-00L</b>	<b>Readings in Environmental Thinking</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
701-0019-00 S	Readings in Environmental Thinking			2 hrs	Fri	16-18	CHN G42 CHN G46		<b>J. Ghazoul</b>
<b>851-0430-00L</b>	<b>Günther Anders: The Antiquity of Man</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0430-00 S	Günther Anders: Die Antiquiertheit des Menschen			2 hrs	Mon	18-20	IFW C33		<b>M. Hagner</b>

<b>851-0011-00L</b>	<b>The Body in Global History</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0011-00 S	The Body in Global History			2 hrs	Wed	10-12	HG E33.3	<b>E. Valdameri</b>	
<b>851-0175-00L</b>	<b>Images of the Human</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0175-00 G	Images of the Human <i>The course consists of a lecture (Monday 6-8pm) and an exercise (Tuesday 10am-12am).</i>			28s hrs	Mon/2w Tue/2w	18-20 10-12	HG D1.2 RZ F21	<b>J. L. Gastaldi</b>	
<b>851-0422-00L</b>	<b>A Modern Utopia: Science and Visions of the Future</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0422-00 S	A Modern Utopia: Science and Visions of the Future			2 hrs	Thu	18-20	IFW B42	<b>A. Fryxell</b>	
<b>851-0421-00L</b>	<b>Sapiens: A Reading Course</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0421-00 S	Sapiens – Ein wissenschaftshistorischer Lektürekurs			2 hrs	Tue	10-12	IFW C33	<b>N. Guettler</b>	
<b>851-0527-00L</b>	<b>Introduction to the History of Technology: Concepts, and Current Debates</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0527-00 S	Einführung in die Technikgeschichte: Themenfelder, Konzepte und aktuelle Debatten <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Tue	12-14	RZ F21	<b>R. Wichum, R. Delucchi</b>	
<b>851-0168-00L</b>	<b>Aristotle's Lecture on Physics</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0168-00 S	Die Physikvorlesung des Aristoteles			2 hrs	Mon	18-20	HG F3	<b>M. Hampe</b>	
<b>851-0162-00L</b>	<b>Philosophy of Physics</b>	<b>W</b>	<b>3 credits</b>	<b>3S</b>					
851-0162-00 S	<i>Number of participants limited to 50.</i> Philosophie der Physik			3 hrs	Thu Fri 01.10. 03.12.	17-18 14-16 14-16 14-16	IFW A36 IFW A36 HG E7 HG E7	<b>M. Hampe, R. Wallny</b>	
<b>851-0087-00L</b>	<b>Knowledge and Practice in Philosophy of War</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0087-00 S	Knowledge and Practice in Philosophy of War <i>Does not take place this semester.</i>			2 hrs					
<b>851-0536-00L</b>	<b>Technology and the Environment – on Course for Collision?</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0536-00 S	Technology and the Environment – on Course for Collision?			2 hrs	Wed	12-14	IFW C33	<b>L. Müller</b>	
<b>851-0081-00L</b>	<b>Artificial Intelligence. Interdisciplinary Perspectives</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0081-00 S	Artificial Intelligence. Interdisciplinary Perspectives <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Tue	18-20	ON LINE	<b>A. Schubbach, J. Noller</b>	
<b>851-0300-86L</b>	<b>Max Frisch: Experiments of Storytelling</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0300-86 S	Max Frisch: Experimente des Erzählens			2 hrs	Tue	12-14	ML E12	<b>A. Kilcher</b>	
<b>851-0301-11L</b>	<b>The Unconditionality of Knowledge: Faust in European Literature</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0301-11 V	Unbedingtheit des Wissens: Faust in der europäischen Literatur			2 hrs	Wed	12-14	IFW A32.1	<b>A. Kilcher</b>	
<b>851-0107-00L</b>	<b>Science and the Public: A Problem of Mediation that the Media Have to Solve?</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>					
851-0107-00 S	Wissenschaft und Öffentlichkeit - ein Vermittlungsproblem, das die Medien zu lösen haben? <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			1 hrs	Wed/2w	14-16	IFW D42	<b>U. J. Wenzel</b>	
<b>851-0537-00L</b>	<b>Architectures of Knowledge: Infrastructures of the University</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0537-00 S	Architekturen des Wissens: Infrastrukturen der Universität			2 hrs	Mon	12-14	IFW C33	<b>N. Bredella</b>	
<b>851-0079-00L</b>	<b>Ignorance and Error in the Sciences</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0079-00 S	Unwissen und Irrtum in den Wissenschaften <i>Does not take place this semester.</i>			2 hrs					
<b>862-0110-00L</b>	<b>Dialectics</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
862-0110-00 S	<i>For students MA Philosophy and History of Science only.</i> Dialektik ■			2 hrs	Thu	14-16	ML F38	<b>M. Hampe</b>	
<b>851-0125-76L</b>	<b>Critiques of Scientific Objectivity</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0125-76 S	<i>Number of participants limited to 30.</i> Critiques of Scientific Objectivity			2 hrs	Fri	16-18	IFW A34	<b>R. Wagner</b>	
<b>►► Semester Report</b>									
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>	
<b>862-0006-00L</b>	<b>Semester Report</b>	<b>O</b>	<b>3 credits</b>	<b>3A</b>					
862-0006-00 A	Semesterbericht			3 hrs	by appt.			Lecturers	
<b>►► Semester Paper</b>									

Number	Title	Type	ECTS	Hours	Lecturers
<b>862-0008-26L</b>	<b>Term Paper History of Technology (HS 2021)</b>	<b>W</b>	<b>5 credits</b>	<b>11A</b>	
862-0008-00 A	Seminararbeit in Technikgeschichte ■			150s hrs by appt.	Lecturers
<b>862-0009-25L</b>	<b>Term Paper in Science of Knowledge (HS 2021)</b>	<b>W</b>	<b>5 credits</b>	<b>11A</b>	
862-0009-00 A	Seminararbeit in Wissenschaftsforschung ■			150s hrs by appt.	Lecturers
<b>862-0010-25L</b>	<b>Term Paper in Theoretical Philosophy (HS 2021)</b>	<b>W</b>	<b>5 credits</b>	<b>11A</b>	
862-0010-00 A	Seminararbeit in theoretischer Philosophie			150s hrs by appt.	Lecturers
<b>862-0011-24L</b>	<b>Term Paper in Practical Philosophy (HS 2021)</b>	<b>W</b>	<b>5 credits</b>	<b>11A</b>	
862-0011-00 A	Seminararbeit in praktischer Philosophie ■			150s hrs by appt.	Lecturers
<b>862-0012-25L</b>	<b>Term Paper in Literature and Culture (HS 2021)</b>	<b>W</b>	<b>5 credits</b>	<b>11A</b>	
862-0012-00 A	Seminararbeit in Literatur- und Kulturwissenschaft ■			150s hrs by appt.	Lecturers
<b>862-0013-25L</b>	<b>Term Paper History of the Modern World (HS 2021)</b>	<b>W</b>	<b>5 credits</b>	<b>11A</b>	
862-0013-00 A	Seminararbeit in Geschichte der modernen Welt ■			150s hrs by appt.	Lecturers
<b>862-0015-06L</b>	<b>Term Paper in History and Philosophie of Mathematical Sciences (HS 2021)</b>	<b>W</b>	<b>5 credits</b>	<b>11A</b>	
862-0015-00 A	Seminararbeit in Geschichte und Philosophie der mathematischen Wissenschaften ■			150s hrs	Lecturers

## ► Major Courses

### ►► Essays

*In each subject of the master reading lists are handed out. The books on these lists are the subject of the tutorials one has to attend with the teachers that are named in the Leitfaden. In three subjects essays are to be written about works on these lists.*

Number	Title	Type	ECTS	Hours	Lecturers
<b>862-0021-00L</b>	<b>Essay on Readings in History of Technology (HS)</b>	<b>W</b>	<b>10 credits</b>	<b>21A</b>	
862-0021-00 A	Lektüreessay in Technikgeschichte ■			300s hrs by appt.	Lecturers
<b>862-0023-00L</b>	<b>Essay on Readings in Science Research (HS)</b>	<b>W</b>	<b>10 credits</b>	<b>21A</b>	
862-0023-00 A	Lektüreessay in Wissenschaftsforschung ■			300s hrs by appt.	Lecturers
<b>862-0025-00L</b>	<b>Essay on Readings in Theoretical Philosophy (HS)</b>	<b>W</b>	<b>10 credits</b>	<b>21A</b>	
862-0025-00 A	Lektüreessay in theoretischer Philosophie ■			300s hrs by appt.	Lecturers
<b>862-0027-00L</b>	<b>Essay on Readings in Practical Philosophy (HS)</b>	<b>W</b>	<b>10 credits</b>	<b>21A</b>	
862-0027-00 A	Lektüreessay in praktischer Philosophie ■			300s hrs by appt.	Lecturers
<b>862-0029-00L</b>	<b>Essay on Readings in Literature and Culture (HS)</b>	<b>W</b>	<b>10 credits</b>	<b>21A</b>	
862-0029-00 A	Lektüreessay in Literatur- und Kulturwissenschaft ■			300s hrs by appt.	Lecturers
<b>862-0031-00L</b>	<b>Essay on Readings in History of the Modern World (HS)</b>	<b>W</b>	<b>10 credits</b>	<b>21A</b>	
862-0031-00 A	Lektüreessay in Geschichte der modernen Welt ■			300s hrs by appt.	Lecturers
<b>862-0035-00L</b>	<b>Essay on Readings in History and Philosophie of Mathematical Sciences (HS)</b>	<b>W</b>	<b>10 credits</b>	<b>21A</b>	
862-0035-00 A	Lektüreessay in Geschichte und Philosophie der mathematischen Wissenschaften (HS) ■			300s hrs	Lecturers

### ►► Seminars

*In the seminars topics from the introductory courses are taught in more detail. Topics for essays are to be arranged with the teachers of the courses.*

### ► Research Colloquium

Number	Title	Type	ECTS	Hours	Lecturers
<b>862-0004-13L</b>	<b>Research Colloquium Philosophy for Master Students and PhD (HS 2021)</b> <i>For MAGPW and PhD students of D-GESS only.</i>	<b>W</b>	<b>2 credits</b>	<b>1K</b>	
862-0004-00 K	Forschungskolloquium Philosophie mit Arbeit ■ <i>Anmeldung bei Prof. Michael Hampe, Prof. Roy Wagner oder Prof. Lutz Wingert</i>			14s hrs Wed/2w 18-20 RZ F21	<b>R. Wagner</b> , M. Hampe, L. Wingert
<b>862-0078-11L</b>	<b>Research Colloquium. Extra-European History and Global History (HS 2021)</b> <i>For PhD and postdoctoral students. Master students are welcome.</i>	<b>W</b>	<b>2 credits</b>	<b>1K</b>	
<i>Information for UZH students: Enrolment to this course unit only possible</i>					

at ETH. No enrolment to module  
06SM600G125E at UZH.  
Please mind the ETH enrolment deadlines  
for UZH students:  
<https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html>

862-0078-00 K	Research Colloquium. Extra-European History and Global History **together with University of Zurich**	1 hrs	30.09. 18-20 14.10. 18-20 28.10. 18-20 11.11. 18-20 02.12. 18-20	IFW A36 IFW A36 IFW A36 IFW A36 IFW A36	<b>H. Fischer-Tiné,</b> M. Dusinger
---------------	----------------------------------------------------------------------------------------------------------	-------	------------------------------------------------------------------------------	-----------------------------------------------------	----------------------------------------

<b>862-0088-09L</b>	<b>Research Colloquium Science Studies (HS 2021)</b>	<b>W</b>	<b>2 credits</b>	<b>1K</b>				
862-0088-00 K	Forschungskolloquium Wissenschaftsforschung (mit Protokoll) ■ Permission from lecturers required for all students Unregelmässige Lehrveranstaltung. Anmeldungen bitte per sekretariat@wiss.gess.ethz.ch		14s hrs	Wed	16-18	RZ F21	<b>M. Hagner</b>	
<b>862-0089-09L</b>	<b>Advanced Colloquium in Literary Studies (HS 2021)</b> Colloquium is designed for advanced and graduated students.	<b>W</b>	<b>2 credits</b>	<b>1K</b>				
862-0089-00 K	Literaturwissenschaftliches Kolloquium ■		14s hrs	Wed	16-18	IFW E42	<b>A. Kilcher</b>	
<b>851-0551-18L</b>	<b>Colloquium for Master and PhD Students History of Technology (HS 2021)</b>	<b>W</b>	<b>2 credits</b>	<b>1K</b>				
851-0551-18 K	Master-/Doktoratskolloquium Technikgeschichte (HS 2021) Daten werden noch kommuniziert.		14s hrs				<b>D. Gugerli</b>	

## ► Master's Thesis

The work on the master-thesis is supervised by one of the teachers that are allowed to offer tutorials for it, named in the Leitfaden.

Number	Title	Type	ECTS	Hours	Lecturers
<b>862-0500-00L</b>	Master's Thesis A student is only permitted to commence the Master thesis if a. the Bachelor degree programme has been completed b. any additional requirements for admission to the degree programme have been fulfilled c. all credits have been acquired in the categories basic courses and major courses and at least 6 credits have been acquired in the category research colloquium	<b>O</b>	<b>30 credits</b>	<b>64D</b>	
862-0500-00 D	Master-Arbeit ■			900s hrs by appt.	Supervisors

## History and Philosophy of Knowledge Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS  
■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

## Humanities, Social and Political Sciences (General Courses)

### ► Military Studies

Number	Title	Type	ECTS	Hours					Lecturers
<b>853-0037-01L</b>	<b>Military Psychology and Pedagogy I (without Exercises)</b>	<b>Z</b>	<b>3 credits</b>	<b>2V</b>					
853-0037-00 V	Militärpsychologie und -pädagogik I			2 hrs	Tue	10-12	HG E33.3		<b>H. Annen</b>
<b>853-0063-02L</b>	<b>Military History I (without Exercises)</b>	<b>Z</b>	<b>3 credits</b>	<b>2V</b>					
853-0063-00 V	Militärsgeschichte I			2 hrs	Mon	16-18	HG D3.2		<b>A. Wettstein</b> , T. Cubito, M. Olsansky
<b>853-0082-00L</b>	<b>Strategic Studies I</b>	<b>Z</b>	<b>3 credits</b>	<b>2V</b>					
853-0082-00 V	Strategische Studien I			2 hrs	Tue	14-16	IFW A36		<b>M. Mantovani</b>
<b>853-0064-00L</b>	<b>Military Sociology I</b>	<b>Z</b>	<b>3 credits</b>	<b>2V</b>					
853-0064-00 V	Militärsoziologie I			2 hrs	Mon	14-16	IFW A32.1		<b>T. Szvircsev Tresch</b> , S. De Rosa, T. Ferst
<b>853-0101-02L</b>	<b>Defense Economics I</b>	<b>Z</b>	<b>3 credits</b>	<b>2V</b>					
853-0101-02 V	Militärökonomie I			2 hrs	Mon	12-14	HG F26.5		<b>M. M. Keupp</b>
<b>853-0033-00L</b>	<b>Leadership I</b> <i>For BA Public Policy and DAS Military Sciences only.</i>	<b>Z</b>	<b>3 credits</b>	<b>2V</b>					
853-0033-00 V	Leadership I ■			2 hrs	Tue	16-18	LEE E101		<b>F. Kernic</b> , F. Demont, M. Holenweger

### ► Further Courses (no SiP-courses)

Number	Title	Type	ECTS	Hours					Lecturers
<b>851-0370-00L</b>	<b>Didactic Basics for Student Teaching Assistants</b>	<b>Z</b>	<b>1 credit</b>	<b>1S</b>					
851-0370-00 S	Didactic Basics for Student Teaching Assistants <i>Self-paced online course: <a href="https://moodle-app2.let.ethz.ch/course/view.php?id=15127">https://moodle-app2.let.ethz.ch/course/view.php?id=15127</a></i>  <i>Consolidation Workshops in November (dates will be announced in the online course at the beginning of the semester)</i>			14s hrs					<b>S. Pedrocchi</b> , B. Volk
<b>851-0371-00L</b>	<b>Coaching Students</b>	<b>Z</b>	<b>1 credit</b>	<b>1S</b>					
851-0371-00 S	Coaching Students <i>Kick-off: 4.10.2021</i> <i>Online course: <a href="https://moodle-app2.let.ethz.ch/course/view.php?id=15146">https://moodle-app2.let.ethz.ch/course/view.php?id=15146</a></i>			12s hrs	Mon/1	16-18	LFW C11		<b>B. Volk</b> , R. P. Haas, S. Pedrocchi
<b>851-0372-00L</b>	<b>Ready, Set, Go!</b> <i>This course is open to Student Teaching Assistants (students with teaching duties in exercises, practicals etc.) from all departments and chairs.</i>	<b>Z</b>	<b>0 credits</b>						
851-0372-00 U	Ready, Set, Go! <i>This is an online course that participants can work through at their own pace.</i>			6s hrs					<b>K. Brown</b> , B. Volk
<b>851-0373-00L</b>	<b>Learning to Teach</b> <i>This programme is designed for ETH Doctoral Teaching Assistants with current teaching responsibilities.</i>	<b>Z</b>	<b>2 credits</b>	<b>2U</b>					
851-0373-00 U	Learning to Teach ■ <i>Consolidation Workshops in November (dates will be announced in the online course at the beginning of the semester).</i>			21s hrs					<b>B. Volk</b> , M. Lehner, S. Pedrocchi

### ► Specialized Continuing Education

*Special internal ETH courses offered by LET and the Teaching Specialists.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>999-9999-99L</b>	<b>EduApp Course</b> <i>This course unit is not a genuine ETH course unit. It is used by LET and the Teaching Specialists for EduApp demonstration purposes.</i>	<b>E-</b>	<b>0 credits</b>	<b>1V+1U</b>					
999-9999-99 V	EduApp Kurs			1 hrs	Mon	08-09	HG E15		<b>B. Volk</b>
999-9999-99 U	EduApp Kurs			1 hrs	Mon	09-10	HG E15		<b>B. Volk</b>

### Humanities, Social and Political Sciences (General Courses) - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate



#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# GESS Science in Perspective

Only the topics listed in this paragraph can be chosen as GESS Science in Perspective.  
Further below you will find the "type B courses Reflections about subject specific methods and content" as well as the language courses.

6 ECTS need to be acquired during the BA and 2 ECTS during the MA

Students who already took a course within their main study program are NOT allowed to take the course again.

## ► Type A: Enhancement of Reflection Competence

Suitable for all students.

Students who already took a course within their main study program are NOT allowed to take the course again.

## ►► History

Number	Title	Type	ECTS	Hours					Lecturers
<b>853-0725-00L</b>	<b>History Part One: Europe (The Cradle of Modernity, Britain, 1789-1914)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
853-0725-00 V	Geschichte I: Europa (Grossbritannien, Mutterland der Moderne, 1789-1914)			2 hrs	Wed	14-16	ML E12		<b>H. Fischer-Tiné</b>
<b>851-0105-00L</b>	<b>Background Knowledge Arabic World</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0105-00 V	Hintergrundwissen arabische Welt			2 hrs	Wed	18-20	HG E33.1		<b>U. Göskén</b>
<b>851-0101-88L</b>	<b>National Socialist Persecution, International Politics on Refugees and Science 1933-1945</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>Number of participants limited to 45</i>								
851-0101-88 G	Nationalsozialistische Verfolgung, internationale Flüchtlingspolitik und Wissenschaft 1933-1945 <i>Does not take place this semester.</i>			2 hrs					
<b>052-0801-00L</b>	<b>Global History of Urban Design I</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
052-0801-00 G	Global History of Urban Design I <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	10-12	HIL E4		<b>T. Avermaete</b>
<b>851-0011-00L</b>	<b>The Body in Global History</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0011-00 S	The Body in Global History			2 hrs	Wed	10-12	HG E33.3		<b>E. Valdameri</b>
<b>851-0175-00L</b>	<b>Images of the Human</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0175-00 G	Images of the Human <i>The course consists of a lecture (Monday 6-8pm) and an exercise (Tuesday 10am-12am).</i>			28s hrs	Mon/2w Tue/2w	18-20 10-12	HG D1.2 RZ F21		<b>J. L. Gastaldi</b>
<b>851-0422-00L</b>	<b>A Modern Utopia: Science and Visions of the Future</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0422-00 S	A Modern Utopia: Science and Visions of the Future			2 hrs	Thu	18-20	IFW B42		<b>A. Fryxell</b>
<b>851-0421-00L</b>	<b>Sapiens: A Reading Course</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0421-00 S	Sapiens – Ein wissenschaftshistorischer Lektürekurs			2 hrs	Tue	10-12	IFW C33		<b>N. Guettler</b>
<b>851-0527-00L</b>	<b>Introduction to the History of Technology: Concepts, and Current Debates</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0527-00 S	Einführung in die Technikgeschichte: Themenfelder, Konzepte und aktuelle Debatten <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Tue	12-14	RZ F21		<b>R. Wichum, R. Delucchi</b>
<b>851-0168-00L</b>	<b>Aristotle's Lecture on Physics</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0168-00 S	Die Physikvorlesung des Aristoteles			2 hrs	Mon	18-20	HG F3		<b>M. Hampe</b>
<b>851-0499-00L</b>	<b>Globalization – Theories, Concepts, Aspects</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0499-00 V	Globalisierung – Theorien, Konzepte, Aspekte			2 hrs	Wed	18-20	IFW A32.1		<b>S. M. Scheuzger</b>
<b>851-0101-72L</b>	<b>The Modern City and Cultural Criticism. The "Knowledge of Life" in Reform Movements 1880-1933</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0101-72 V	Moderne Grossstadt und Kulturkritik. Das "Wissen vom Leben" in den Reformbewegungen 1880-1933			2 hrs	Thu	14-16	IFW B42		<b>S. S. Leuenberger</b>
<b>851-0535-10L</b>	<b>Yemen: A Failed State?</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0535-10 V	Yemen: A Failed State?			2 hrs	Tue	12-14	HG E33.5		<b>E. Manea</b>
<b>851-0125-65L</b>	<b>A Sampler of Histories and Philosophies of Mathematics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
	<i>Particularly suitable for students D-CHAB, D-INFK, D-ITET, D-MATH, D-PHYS</i>								
851-0125-65 V	A Sampler of Histories and Philosophies of Mathematics			2 hrs	Mon	16-18	ML E12		<b>R. Wagner</b>
<b>851-0107-00L</b>	<b>Science and the Public: A Problem of Mediation that the Media Have to Solve?</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>					

851-0107-00 S	Wissenschaft und Öffentlichkeit - ein Vermittlungsproblem, das die Medien zu lösen haben? <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>	1 hrs	Wed/2w 14-16	IFW D42	<b>U. J. Wenzel</b>
<b>851-0537-00L</b>	<b>Architectures of Knowledge: Infrastructures of the University</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>	
851-0537-00 S	Architekturen des Wissens: Infrastrukturen der Universität	2 hrs	Mon	12-14	IFW C33 <b>N. Bredella</b>
<b>851-0101-56L</b>	<b>From Cotton to Cocaine: Commodities That Made History (c.1700-1950)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>	
851-0101-56 V	From Cotton to Cocaine: Commodities That Made History (c.1700-1950)	2 hrs	Mon	12-14	IFW A36 <b>H. Fischer-Tiné</b>
<b>851-0008-00L</b>	<b>Ban on Alcohol and Science: A Global History of Prohibition 1918-1939</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>	
851-0008-00 S	Alkoholverbot und Wissenschaft: Eine Globalgeschichte der Prohibition 1918-1939	2 hrs	Tue	12-14	LEE C104 <b>E. Biçer-Deveci</b>

## ►► Literature

Number	Title	Type	ECTS	Hours	Lecturers
<b>851-0337-00L</b>	<b>African Intellectual and Artistic Presence: From "Négritude" to the "Ateliers de la pensée"</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>	
851-0337-00 V	Présence intellectuelle et artistique Africaine : de la négritude aux Ateliers de la pensée	2 hrs	Tue	16-18	LFO C13 <b>F. Sarr</b>
<b>851-0336-00L</b>	<b>Eros: Athens, Rome, Vienna, Paris</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>	
851-0336-00 V	Eros: Atene, Roma, Vienna, Parigi	2 hrs	Thu	16-18	LFO C13 <b>G. Sissa</b>
<b>851-0300-86L</b>	<b>Max Frisch: Experiments of Storytelling</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>	
851-0300-86 S	Max Frisch: Experimente des Erzählens	2 hrs	Tue	12-14	ML E12 <b>A. Kilcher</b>
<b>851-0301-11L</b>	<b>The Unconditionality of Knowledge: Faust in European Literature</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>	
851-0301-11 V	Unbedingtheit des Wissens: Faust in der europäischen Literatur	2 hrs	Wed	12-14	IFW A32.1 <b>A. Kilcher</b>
<b>851-0082-00L</b>	<b>Literature and the Knowledge of the Social</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>	
851-0082-00 G	Literatur und das Wissen vom Sozialen <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>	2 hrs	Thu	18-20	IFW A32.1 <b>A. Alon</b>
<b>851-0340-01L</b>	<b>Writing Technology: Symbols, Codes, and Translating Machines</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>	
851-0340-01 V	Writing Technology: Symbols, Codes, and Translating Machines	2 hrs	Wed	12-14	LEE C114 <b>P. Gerard</b>

## ►► Economics

Number	Title	Type	ECTS	Hours	Lecturers
<b>851-0626-01L</b>	<b>International Aid and Development</b> <i>Number of participants limited to 60</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>	
	<i>Prerequisites: Basic knowledge of economics</i>				
851-0626-01 V	International Aid and Development	2 hrs	Tue	12-14	IFW A32.1 <b>K. Harttgen, I. Günther</b>
<b>851-0609-06L</b>	<b>Governing the Energy Transition</b> <i>Primarily suited for Master and PhD level.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>	
851-0609-06 V	Governing the Energy Transition	2 hrs	Thu	16-18	NO C60 <b>T. Schmidt, N. Schmid, S. Sewerin</b>
<b>151-0757-00L</b>	<b>Environmental Management</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
151-0757-00 G	Umwelt-Management <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>	2 hrs	Wed	18-20	ML D28 <b>R. Züst</b>
<b>363-1027-00L</b>	<b>Introduction to Health Economics and Policy</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>	
363-1027-00 V	Introduction to Health Economics and Policy <i>Does not take place this semester. Block course</i>	16s hrs			<b>C. Waibel</b>
<b>363-1050-00L</b>	<b>Simulation of Negotiations</b> <i>Limited number of participants.</i>	<b>W</b>	<b>3 credits</b>	<b>3V</b>	
	<i>Students who wish to register for this course have to apply no later than 18 September. Please send your application to Andreas Knobel: aknobel@ethz.ch, additionally register in mystudies (technical note for the registration: All registered students will initially be placed on a waiting</i>				

363-1050-00 V	list). Simulation of Negotiations ■ Permission from lecturers required for all students Irregular lecture  Additional dates: 2./3.12.2021, University of Geneva	36s hrs	Tue 05.10. 02.12. 03.12.	10-12 09-10 10-17 10-17	HG D22 HG D22 Ex tern Ex tern	M. Ambühl, A. Knobel	
363-0387-00L	Corporate Sustainability	W	3 credits	2G			
363-0387-00 G	Corporate Sustainability The course combines online learning elements and live sessions, some of which are recorded. Several course sessions require live attendance. Details are provided on the moodle course page.		2 hrs	Wed/2 Wed Wed/2	16-18 16-18 16-18	HG E21 HG E22 HG F3 ML E12	V. Hoffmann, C. Bening-Bach, N. U. Blum, J. Meuer
363-0503-00L	Principles of Microeconomics GESS (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L Einführung in die Mikroökonomie.	W	3 credits	2G			
363-0503-00 G	Principles of Microeconomics The lecture takes place in classroom, online via livestreaming or zoom and recorded.		2 hrs	Thu	18-20	HG F7	M. Filippini
363-0565-00L	Principles of Macroeconomics	W	3 credits	2V			
363-0565-00 V	Principles of Macroeconomics Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.		2 hrs	Tue	16-18	ETA F5 ETF E1	J.-E. Sturm
363-0561-00L	Financial Market Risks	W	3 credits	2G			
363-0561-00 G	Financial Market Risks The lecture takes place in classroom, online via livestreaming or zoom and recorded.		2 hrs	Mon	10-12	ML H44	D. Sornette
351-0555-00L	Open- and User Innovation	W	3 credits	2G			
351-0555-00 G	Open- and User Innovation Block course The Kick-off event will take place ONLINE, 22.09.2021 from 14.00 - 16.00.		23s hrs	22.09. 25.10. 26.10. 27.10.	14-16 09-17 09-17 09-17	ON LINE ML H37.1 ML H37.1 ML H37.1	S. Häfliger, S. Spaeth
701-0747-00L	Environmental Policy of Switzerland Number of participants limited to 130. Priority is given to the target group: Bachelor Study programme Environmental Sciences until September 27th,2021. Waiting list will be deleted October 1st, 2021.	W	3 credits	2G			
701-0747-00 G	Umweltpolitik der Schweiz		2 hrs	Mon	12-14	HG E1.1	E. Lieberherr
351-1158-00L	Principles of Economics	W	3 credits	2G			
351-1158-00 G	Ökonomie In classroom, online via livestreaming or zoom and recorded (Einführungsvorlesung 22.9. sowie Gastvorlesung 10.11.). In classroom, online via livestreaming or zoom, not recorded (4 groups); 6 Präsenzveranstaltungen. Online via livestreaming or zoom and recorded (1 group only zoom, this will be recorded).		2 hrs	Wed	10-12	HG E41 LEE C104 LEE C114 LEE D101 LEE D105 ML D28 ML E12	U. Renold, T. Bolli, P. McDonald, M. E. Oswald-Egg, F. Pusterla
701-0985-00L	Social Intercourse with Current Environmental Risks	W	1 credit	1V			
701-0985-00 V	Gesellschaftlicher Umgang mit aktuellen Umweltrisiken Does not take place this semester.		1 hrs				B. Nowack
363-1109-00L	Introduction to Microeconomics GESS (Science in Perspective): This course is only for students enrolled in a Bachelor's degree programme.  Students enrolled in a Master's degree programme may attend "Principles of Microeconomics" (LE 363-0503-00L) instead.  Note for D-MAVT students: If you have already successfully completed "Principles of Microeconomics" (LE 363-0503-00L), then you will not be permitted to attend it again.	W	3 credits	2G			
363-1109-00 G	Einführung in die Mikroökonomie Zusätzliche (freiwillige) Termine für Übungen zur Vorlesung werden zu Beginn der Vorlesung bekanntgegeben.		2 hrs	Tue	10-12	HG E5	M. Wörter, M. Beck
363-1044-00L	Applied Negotiation Seminar Number of participants limited to 30.  Prerequisites: Successful completion of lectures "363-1039-00L Introduction to Negotiation".	W	3 credits	2S			

363-1044-00 S	Applied Negotiation Seminar ■ <i>Permission from lecturers required for all students</i> <i>Block course</i>	22s hrs	01.10.	09-17	HG E33.1 HG E33.3 HG E33.5 HG E33.1 HG E33.3 HG E33.5 HG E33.1 HG E33.3 HG E33.5 HG E33.1 HG E33.3 HG E33.5	<b>A. Knobel</b>
			02.10.	09-17		
			15.10.	09-17		
			16.10.	09-17		

363-1050-01L	Simulation of Negotiations (Exercises)	W	1 credit	1U					
363-1050-01 U	Simulation of Negotiations (Exercises) ■			8s hrs	12.10.	13-17	LFW B2	M. Ambühl, A. Knobel	
	Permission from lecturers required for all students				09.11.	08-12	LFW B2		

## ►► Philosophy

Number	Title	Type	ECTS	Hours				Lecturers
<b>851-0180-00L</b>	<b>Research Ethics</b> <i>Number of participants limited to 40</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
	<i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>							
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1	<b>G. Achermann, P. Emch</b>
<b>701-0703-00L</b>	<b>Environmental Ethics</b> W	<b>2 credits</b>	<b>2V</b>					
701-0703-00 V	Ethik und Umwelt			2 hrs	Fri	12-14	HG F7	<b>A. Deplazes Zemp</b>
<b>851-0101-87L</b>	<b>World Views in the Digital Age</b> W	<b>3 credits</b>	<b>2S</b>					
	<i>Number of participants limited to 36.</i>							
851-0101-87 S	World Views in the Digital Age			2 hrs	Fri	16-18	HG E21	<b>J. Leuthold, C. aus der Au Heymann</b>
<b>851-0430-00L</b>	<b>Günther Anders: The Antiquity of Man</b> W	<b>3 credits</b>	<b>2S</b>					
851-0430-00 S	Günther Anders: Die Antiquiertheit des Menschen			2 hrs	Mon	18-20	IFW C33	<b>M. Hagner</b>
<b>851-0162-00L</b>	<b>Philosophy of Physics</b> W	<b>3 credits</b>	<b>3S</b>					
	<i>Number of participants limited to 50.</i>							
851-0162-00 S	Philosophie der Physik			3 hrs	Thu Fri 01.10. 03.12.	17-18 14-16 14-16 14-16	IFW A36 IFW A36 HG E7 HG E7	<b>M. Hampe, R. Wallny</b>
<b>851-0087-00L</b>	<b>Knowledge and Practice in Philosophy of War</b> W	<b>3 credits</b>	<b>2S</b>					
851-0087-00 S	Knowledge and Practice in Philosophy of War <i>Does not take place this semester.</i>			2 hrs				
<b>851-0125-65L</b>	<b>A Sampler of Histories and Philosophies of Mathematics</b> W	<b>3 credits</b>	<b>2V</b>					
	<i>Particularly suitable for students D-CHAB, D-INFK, D-ITET, D-MATH, D-PHYS</i>							
851-0125-65 V	A Sampler of Histories and Philosophies of Mathematics			2 hrs	Mon	16-18	ML E12	<b>R. Wagner</b>
<b>851-0125-76L</b>	<b>Critiques of Scientific Objectivity</b> W	<b>3 credits</b>	<b>2S</b>					
	<i>Number of participants limited to 30.</i>							
851-0125-76 S	Critiques of Scientific Objectivity			2 hrs	Fri	16-18	IFW A34	<b>R. Wagner</b>
<b>851-0197-00L</b>	<b>Medieval and Early Modern Science and Philosophy</b> W	<b>3 credits</b>	<b>2V</b>					
851-0197-00 V	Medieval and Early Modern Science and Philosophy			2 hrs	Thu	12-14	IFW A36	<b>E. Sammarchi</b>
<b>052-0517-21L</b>	<b>Theory and Practice: Heterotopia, Referential Space and Spatial Effects</b> W	<b>2 credits</b>	<b>2G</b>					
052-0517-21 G	Theorie und Praxis: Heterotopie, referenzieller Raum und Raumeffekte <i>Kursdaten: Siehe Raumbelagungen!</i>			2 hrs	Mon	14-18	HCI J6	<b>C. Posthofen, A. Brandhuber</b>
<b>851-0081-00L</b>	<b>Artificial Intelligence. Interdisciplinary Perspectives</b> W	<b>3 credits</b>	<b>2S</b>					
851-0081-00 S	Artificial Intelligence. Interdisciplinary Perspectives <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Tue	18-20	ON LINE	<b>A. Schubbach, J. Noller</b>
<b>851-0079-00L</b>	<b>Ignorance and Error in the Sciences</b> W	<b>3 credits</b>	<b>2S</b>					
851-0079-00 S	Unwissen und Irrtum in den Wissenschaften <i>Does not take place this semester.</i>			2 hrs				
<b>851-0096-00L</b>	<b>Science in Society</b> W	<b>3 credits</b>	<b>2G</b>					
851-0096-00 G	Wissenschaft in der Gesellschaft			2 hrs	Thu	12-14	IFW A32.1	<b>L. Wingert</b>
<b>851-0198-00L</b>	<b>Philosophy of Psychiatry</b> W	<b>3 credits</b>	<b>2V</b>					
851-0198-00 V	Philosophy of Psychiatry			2 hrs	Wed	16-18	IFW C33	<b>J. Perez Escobar</b>
<b>851-0351-00L</b>	<b>Philosophy of Religion: Faith and Knowledge According to Kant (University of Zurich)</b> W	<b>3 credits</b>	<b>2S</b>					
	<i>No enrolment to this course at ETH Zurich.</i>							

Book the corresponding module directly at  
UZH as an incoming student.  
UZH Module Code: 23LB002

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

851-0351-00 S Religionsphilosophie: Glauben und Wissen nach Kant (Universität 2 hrs  
Zürich)  
\*\*Kurs an der Universität Zürich\*\*

**851-0352-00L** **Introductory Course in Philosophy of Religion (University of Zurich)**  
No enrolment to this course at ETH Zurich.  
Book the corresponding module directly at UZH as an incoming student.  
UZH Module Code: 23LB006

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

851-0352-00 S Grundkurs Religionsphilosophie (Universität Zürich) 2 hrs Thu 12-14 UNI ZH. University lecturers  
\*\*Kurs an der Universität Zürich\*\*

## ►► Political Science

Number	Title	Type	ECTS	Hours				Lecturers
851-0589-00L	Technology and Innovation for Development	W Dr	3 credits	2V				
851-0589-00 V	Technology and Innovation for Development			2 hrs	Tue	12-14	LEE D101	P. Aerni
853-0038-00L	Swiss Foreign Policy	W	3 credits	2V				
853-0038-00 V	Schweizerische Aussenpolitik			2 hrs	Fri	14-16	CAB G51	D. Möckli
853-0047-01L	World Politics Since 1945: The History of International Relations (Without Exercises)	W	3 credits	2V				
853-0047-00 V	Weltpolitik seit 1945: Geschichte der internationalen Beziehungen			2 hrs	Wed	10-12	CAB G11	L. Horovitz
853-0015-01L	Conflict Research I: Political Violence	W	3 credits	2V				
853-0015-00 V	Konfliktforschung I: Politische Gewalt ■			2 hrs	Wed	14-16	LFW B3	A. Juon
853-0302-01L	European Integration (Seminar without Tutorial)	W	2 credits	2S				
853-0302-00 S	Europäische Integration: Seminar			2 hrs	Tue	09-11	CHN E42	R. Sczepanski
860-0023-00L	International Environmental Politics <i>Particularly suitable for students of D-ITET, D-USYS</i>	W	3 credits	2V				
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3	T. Bernauer
853-0061-00L	Introduction to Cybersecurity Politics	W	3 credits	2G				
853-0061-00 G	Einführung in die Cybersicherheitspolitik			2 hrs	Wed	14-16	HG F3	M. Dunn Cavelty, F. J. Egloff
853-8002-00L	The Role of Technology in National and International Security Policy	W	3 credits	2G				
853-8002-00 G	Die Rolle von Technologie in nationaler und internationaler Sicherheitspolitik			2 hrs	Tue	08-10	IFW A36	M. Haas, A. Dossi, M. Leese, O. Thränert
851-0650-00L	AI4Good	W	3 credits	2G				
851-0650-00 G	AI4Good ■			2 hrs	Thu	10-12	IFW C33	J. D. Wegner
851-0536-00L	Technology and the Environment – on Course for Collision?	W	3 credits	2S				
851-0536-00 S	Technology and the Environment – on Course for Collision?			2 hrs	Wed	12-14	IFW C33	L. Müller
851-0101-74L	Sustainable Development - Bridging Art and Science	W	3 credits	2G				
851-0101-74 G	Sustainable Development - Bridging Art and Science <i>Unregelmässige Lehrveranstaltung</i>			28s hrs	Wed	14-16	RZ F21	L. Hensgen, S. Patel
851-0535-10L	Yemen: A Failed State?	W	2 credits	2V				
851-0535-10 V	Yemen: A Failed State?			2 hrs	Tue	12-14	HG E33.5	E. Manea
851-0594-04L	One Study, Two Paths: The Dual-Use Dilemma in the Life Sciences <i>Particularly suitable for students (from Bachelor 3rd year onwards) of D-BIOL, D-CHAB, D-HEST</i>	W	3 credits	2S				
<i>Maximum number of participants limited to 20</i>								
851-0594-04 S	One Study, Two Paths: The Dual-Use Dilemma in the Life Sciences <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Fri	08-10	IFW E42	M. Gemünden, O. Thränert

## ►► Psychology, Pedagogics

Number	Title	Type	ECTS	Hours				Lecturers
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	W	2 credits	2V				
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1	E. Stern
851-0238-01L	<b>Support and Diagnosis of Knowledge Acquisition Processes (EW3)</b> <i>Enrolment only possible with matriculation in Teaching Diploma (except for students of Sport Teaching Diploma, who complete the sport-specific course unit EW3) and for students who intend to enrol in the "Teaching Diploma".</i>	W	3 credits	3S				
851-0238-01 S	<i>Prerequisites: successful participation in 851-0240-00L "Human Learning (EW1)".</i> Unterstützung und Diagnose von Wissenserwerbsprozessen (EW3) ■ <i>Bei grosser Anzahl an Teilnehmenden wird die Lehrveranstaltung in zwei Gruppen stattfinden.</i>			3 hrs	Tue	14-17	CHN D42 CHN D44	P. Edelsbrunner, J. Maue, C. M. Thurn
851-0252-01L	<b>Human-Computer Interaction: Cognition and Usability</b> <i>Number of participants limited to 35.</i>	W	3 credits	2S				
851-0252-01 S	<i>Particularly suitable for students of D-ARCH, D-INFK, D-ITET</i> Human-Computer Interaction: Cognition and Usability <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Mon	14-16	ON LINE	H. Zhao, S. Credé, C. Hölscher
851-0252-12L	<b>The Science of Learning From Failure</b> <i>Number of participants limited to 60.</i>	W	2 credits	2S				
851-0252-12 S	The Science of Learning From Failure <i>Groups are selected in myStudies. This seminar is an interactive course, thus attendance and classroom participation are required, especially the first two sessions are essential.</i>			2 hrs	Mon	16-18	HG D3.3 HG E33.3	M. Kapur, E. Ziegler
	<i>The course is held as 2 separate courses with each a maximum of 30 students: one course in German and one in English.</i>							
363-0311-00L	<b>Psychological Aspects of Risk Management and Technology</b> <i>Number of participants limited to 65.</i>	W	3 credits	2V				
363-0311-00 V	Psychological Aspects of Risk Management and Technology			2 hrs	Wed	16-18	LFW B1	G. Grote, N. Bienefeld-Seall, J. Schmutz, R. Schneider, M. Zumbühl
701-0721-00L	<b>Psychology</b>	W	3 credits	2V				
701-0721-00 V	Psychologie <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Tue	14-16	HG D7.2	R. Hansmann, A. Bearth, M. Siegrist
851-0252-08L	<b>Evidence-Based Design: Methods and Tools For Evaluating Architectural Design</b> <i>Number of participants limited to 40</i>	W	3 credits	2S				
851-0252-08 S	<i>Particularly suitable for students of D-ARCH</i> Evidence-Based Design: Methods and Tools For Evaluating Architectural Design			2 hrs	Fri	10-12	HIL E10.1	M. Gath Morad, C. Hölscher, L. Narvaez Zertuche, C. Veddeler
851-0253-07L	<b>Consciousness Studies</b> <i>Number of participants limited to 80.</i>	W	2 credits	2V				
851-0253-07 V	Consciousness Studies			2 hrs	Tue	16-18	IFW A36	K. Stocker
►► Law								
851-0735-09L	<b>Workshop &amp; Lecture Series on the Law &amp; Economics of Innovation</b>	W	2 credits	2S				
851-0735-09 S	Workshop & Lecture Series on the Law & Economics of Innovation <i>**together with University of Zurich**</i>			28s hrs	Tue Wed 22.09.	16-18 16-18 16-18	UNI ZH. IFW A32.1 ML E12	S. Bechtold, H. Gersbach
	<i>Unregelmässige Veranstaltung. Findet alternierende an der UZH und an der ETH statt.</i>							
851-0703-00L	<b>Introduction to Law</b> <i>Students who have attended or will attend</i>	W	2 credits	2V				

the lecture "Introduction to Law for Civil Engineering and Architecture" (851-0703-03L) or "Introduction to Law" (851-0708-00L), cannot register for this course unit.

Particularly suitable for students of D-ARCH, D-MAVT, D-MATL

851-0703-00 V	Grundzüge des Rechts			2 hrs	Mon	14-16	HG E1.2	<b>O. Streiff Gnöppf</b>
<b>851-0742-00L</b>	<b>Contract Design I</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://laweconbusiness.ethz.ch/group/professor/stremitzer.html">https://laweconbusiness.ethz.ch/group/professor/stremitzer.html</a>). Note that this is NOT a legal drafting class that focuses on contractual language. Instead, in Contract Design I, you will learn what the content of a contract should be so that parties can reach their goals.</i>  <i>You can find all course materials and the most recent announcements on Moodle. Please log in to Moodle using your ETH or UZH credentials. Then search for "Contract Design I (851-0742-00L; Fall 2021)" and enroll. The password is "ContractDesign01".</i>  <i>Number of participants limited to 160. Max 80 ETHZ and 80 UZH Students</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
851-0742-00 V	Contract Design I <i>The course is going to take place twice a week (Monday and Thursday) during the first half of the Semester.</i>  <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			28s hrs	Mon/1 Thu/1	16-18 12-14	ETF E1 ETF E1	<b>A. Stremitzer</b>
<b>851-0703-04L</b>	<b>Law and Urban Space</b> <i>Number of participants limited to 45</i>  <i>Particularly suitable for students of D-ARCH</i>	<b>W</b>	<b>2 credits</b>	<b>1V</b>				
851-0703-04 V	Recht und Stadtraum ■			18s hrs	Mon	18-20	HCI D2	<b>O. Streiff Gnöppf</b>
<b>851-0707-00L</b>	<b>Space Planning Law and Environment</b> <i>Particularly suitable for students of D-ARCH, D-BAUG, D-USYS</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
851-0707-00 G	Raumplanungsrecht und Umwelt <i>Vorlesungs-/Übungsveranstaltung nach speziellem Programm. Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Wed	16-18	HG F5	<b>O. Bucher</b>
<b>851-0709-00L</b>	<b>Introduction to Civil Law</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
851-0709-00 V	Introduction au Droit civil <i>Mit Erklärungen auch in italienischer Sprache.</i>			2 hrs	Mon	18-20	HG F1	<b>H. Peter</b>
<b>851-0727-02L</b>	<b>E-Business-Law</b> <i>Particularly suitable for students of D-INFK, D-ITET</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
851-0727-02 V	E-Business-Recht			2 hrs	Fri	08-10	HG D1.2	<b>D. Rosenthal</b>
<b>851-0735-10L</b>	<b>Business Law</b> <i>Number of participants limited to 100</i>  <i>Particularly suitable for students of D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
851-0735-10 V	Wirtschaftsrecht			2 hrs	Thu	14-16	HG D1.2	<b>P. Peyrot</b>
<b>851-0738-00L</b>	<b>Intellectual Property: Introduction</b> <i>Particularly suitable for students of D-CHAB, D-INFK, D-ITET, D-MAVT, D-MATL, D-MTEC</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
851-0738-00 V	Geistiges Eigentum: Eine Einführung <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online (via Zoom) statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	HG D7.1	<b>M. Schweizer</b>
<b>851-0738-01L</b>	<b>The Role of Intellectual Property in the Engineering and Technical Sector</b> <i>Particularly suitable for students of D-BAUG, D-BIOL, D-BSSE, D-CHAB, D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
851-0738-01 V	Die Rolle des Geistigen Eigentums im Ingenieurwesen und den technischen Wissenschaften			28s hrs	Fri/2w	14-18	LFW B1	<b>K. Houshang Pour Islam</b>



<b>851-0760-00L</b>	<b>Building a Robot Judge: Data Science for Decision-Making</b> <i>Particularly suitable for students of D-INFK, D-ITET, D-MTEC</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0760-00 V	Building a Robot Judge: Data Science for Decision-Making <i>Online lecture: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	14-16	ETZ E8	<b>E. Ash</b>	
<b>851-0761-00L</b>	<b>Building a Robot Judge: Data Science for Decision-Making (Course Project)</b> <i>This is the optional course project for "Building a Robot Judge: Data Science for the Law."</i>  <i>Please register only if attending the lecture course or with consent of the instructor.</i>  <i>Some programming experience in Python is required, and some experience with text mining is highly recommended.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0761-00 V	Building a Robot Judge: Data Science for Decision-Making (Course Project) <i>Mondays, 12 - 2 pm. Same dates and room as for the lecture course 851-0760-00 V Building a Robot Judge: Data Science for Decision-Making.</i>			28s hrs				<b>E. Ash</b>	
<b>851-0746-00L</b>	<b>Algorithms and Fairness</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>					
851-0746-00 S	Algorithms and Fairness			14s hrs	03.12. 04.12.	09-17 09-17	HG E33.1 HG E33.1	<b>A. Stremitzer</b> , A. Nielsen	
<b>851-0742-01L</b>	<b>Contract Design II</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://lawecon.ethz.ch/group/professors/stremitzer.html">https://lawecon.ethz.ch/group/professors/stremitzer.html</a>). To be considered for Contract Design II, you must have completed Contract Design I in the same semester. Students can only register for Contract Design II after having obtained approval by Prof. Stremitzer.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>					
851-0742-01 U	Contract Design II <i>The course is going to take place twice a week (Mon and Thurs) during the second half of the Semester (ETH students only).</i>			16s hrs	Mon/2 Thu/2	16-18 12-14	IFW E42 IFW E42	<b>A. Stremitzer</b>	
<b>►► Sociology</b>									
<b>851-0252-10L</b>	<b>Project in Behavioural Finance</b> <i>Number of participants limited to 40</i>  <i>Particularly suitable for students of D-MTEC</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0252-10 S	Project in Behavioural Finance <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Wed	10-12	ON LINE	<b>S. Andraszewicz</b> , C. Hölscher, A. C. Roberts	
<b>851-0252-13L</b>	<b>Network Modeling</b> <i>Particularly suitable for students of D-INFK and in the MSc Data Science</i>  <i>Students are required to have basic knowledge in inferential statistics, such as regression models.</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0252-13 V	Network Modeling			2 hrs	Mon	16-18	IFW A32.1	<b>C. Stadtfeld</b> , V. Amati	
<b>851-0252-15L</b>	<b>Network Analysis</b> <i>Particularly suitable for students of D-INFK, D-MATH</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0252-15 V	Network Analysis			2 hrs	Wed	18-20	ML F36	<b>U. Brandes</b>	
<b>851-0585-41L</b>	<b>Computational Social Science</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0585-41 S	Computational Social Science ■ <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Tue	18-20	RZ F21	<b>D. Helbing</b> , J. Argota Sánchez-Vaquero, M. Korecki	
<b>851-0586-03L</b>	<b>Applied Network Science: Social Media Networks</b> <i>Number of participant limited to 20</i>	<b>W</b>	<b>3 credits</b>	<b>1S</b>					
851-0586-03 S	Applied Network Science: Social Media Networks <i>Irregular course. The seminar ends with a full-day conference on 10.12.2021 (subject to confirmation).</i>  <i>Online lecture: This lecture will primarily take place online (except the full-day conference). Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			17s hrs	Thu/1 10.12.	18-20 09-19	HG E33.1 HG E33.1	<b>U. Brandes</b>	

<b>851-0745-00L</b>	<b>Ethics Workshop: The Impact of Digital Life on Society</b> <i>Number of participants limited to 40.</i>  <i>Open to all Master level / PhD students.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
851-0745-00 S	Ethics Workshop: The Impact of Digital Life on Society ■ <i>Block course three days.</i>			24s hrs	10.11. 11.11. 24.11.	09-17 09-17 09-17	IFW C42 IFW C42 IFW C42	<b>E. Vayena</b> , A. Blasimme, C. Brall, J. Sleigh	

## ►► Science Research

Number	Title	Type	ECTS	Hours					Lecturers
<b>851-0020-00L</b>	<b>Gender and Science</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0020-00 V	Gender and Science			2 hrs	Tue	18-20	HG E33.1	<b>C. L. Blaser</b> , M. Ligtenberg	
<b>851-0157-00L</b>	<b>Mind and Brain</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0157-00 V	Gehirn und Geist			2 hrs	Tue 28.09. 05.10.	18-20 18-20 18-20	IFW A36 HG F3 HG F3	<b>M. Hagner</b>	

## ► Type B: Reflection About Subject-Specific Methods and Contents

*Subject-specific courses: Recommended for doctoral, master and bachelor students (after first-year examination only).*

*Students who already took a course within their main study program are NOT allowed to take the course again.*

*These course units are also listed under "Type A", which basically means all students can enroll*

## ►► D-ARCH

Number	Title	Type	ECTS	Hours					Lecturers
<b>851-0703-00L</b>	<b>Introduction to Law</b> <i>Students who have attended or will attend the lecture "Introduction to Law for Civil Engineering and Architecture " (851-0703-03L) or " Introduction to Law" (851-0708-00L), cannot register for this course unit.</i>  <i>Particularly suitable for students of D-ARCH, D-MAVT, D-MATL</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0703-00 V	Grundzüge des Rechts			2 hrs	Mon	14-16	HG E1.2	<b>O. Streiff Gnöppf</b>	
<b>851-0742-00L</b>	<b>Contract Design I</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://laweconbusiness.ethz.ch/group/professor/stremitzer.html">https://laweconbusiness.ethz.ch/group/professor/stremitzer.html</a>). Note that this is NOT a legal drafting class that focuses on contractual language. Instead, in Contract Design I, you will learn what the content of a contract should be so that parties can reach their goals.</i>  <i>You can find all course materials and the most recent announcements on Moodle. Please log in to Moodle using your ETH or UZH credentials. Then search for "Contract Design I (851-0742-00L; Fall 2021)" and enroll. The password is "ContractDesign01".</i>  <i>Number of participants limited to 160. Max 80 ETHZ and 80 UZH Students</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0742-00 V	Contract Design I <i>The course is going to take place twice a week (Monday and Thursday) during the first half of the Semester.</i>  <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			28s hrs	Mon/1 Thu/1	16-18 12-14	ETF E1 ETF E1	<b>A. Stremitzer</b>	
<b>851-0703-04L</b>	<b>Law and Urban Space</b> <i>Number of participants limited to 45</i>  <i>Particularly suitable for students of D-ARCH</i>	<b>W</b>	<b>2 credits</b>	<b>1V</b>					
851-0703-04 V	Recht und Stadtraum ■			18s hrs	Mon	18-20	HCI D2	<b>O. Streiff Gnöppf</b>	
<b>851-0707-00L</b>	<b>Space Planning Law and Environment</b> <i>Particularly suitable for students of D-ARCH, D-BAUG, D-USYS</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
851-0707-00 G	Raumplanungsrecht und Umwelt <i>Vorlesungs-/Übungsveranstaltung nach speziellem Programm. Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Wed	16-18	HG F5	<b>O. Bucher</b>	
<b>851-0252-01L</b>	<b>Human-Computer Interaction: Cognition</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					

**and Usability**

Number of participants limited to 35.

Particularly suitable for students of D-ARCH, D-INFK, D-ITET

851-0252-01 S	Human-Computer Interaction: Cognition and Usability <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>	2 hrs	Mon	14-16	ON LINE	<b>H. Zhao</b> , S. Credé, C. Hölscher
---------------	----------------------------------------------------------------------------------------------------------------------------------------	-------	-----	-------	---------	----------------------------------------

<b>851-0252-08L</b>	<b>Evidence-Based Design: Methods and Tools For Evaluating Architectural Design</b> <i>Number of participants limited to 40</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>		
---------------------	------------------------------------------------------------------------------------------------------------------------------------	----------	------------------	-----------	--	--

Particularly suitable for students of D-ARCH

851-0252-08 S	Evidence-Based Design: Methods and Tools For Evaluating Architectural Design	2 hrs	Fri	10-12	HIL E10.1	<b>M. Gath Morad</b> , C. Hölscher, L. Narvaez Zertuche, C. Veddeler
---------------	------------------------------------------------------------------------------	-------	-----	-------	-----------	----------------------------------------------------------------------

<b>851-0175-00L</b>	<b>Images of the Human</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
851-0175-00 G	Images of the Human <i>The course consists of a lecture (Monday 6-8pm) and an exercise (Tuesday 10am-12am).</i>	28s hrs	Mon/2w Tue/2w	18-20 10-12	HG D1.2 RZ F21	<b>J. L. Gastaldi</b>

<b>851-0421-00L</b>	<b>Sapiens: A Reading Course</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>		
851-0421-00 S	Sapiens – Ein wissenschaftshistorischer Lektürekurs	2 hrs	Tue	10-12	IFW C33	<b>N. Guettler</b>

<b>851-0724-01L</b>	<b>Real Estate Property Law</b> <i>Particularly suitable for students of D-ARCH, D-BAUG, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>3V</b>		
851-0724-01 V	Immobilienrecht	3 hrs	Mon	17-20	HIL E7	<b>M. Huser</b> , R. Müller-Wyss, S. Stucki

<b>851-0467-00L</b>	<b>From Traffic Modeling to Smart Cities and Digital Democracies</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>		
851-0467-00 S	From Traffic Modeling to Smart Cities and Digital Democracies <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>	2 hrs	Mon	18-20	IFW A32.1	<b>D. Helbing</b> , S. Mahajan

<b>851-0742-01L</b>	<b>Contract Design II</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://lawecon.ethz.ch/group/professors/stremitzer.html">https://lawecon.ethz.ch/group/professors/stremitzer.html</a>). To be considered for Contract Design II, you must have completed Contract Design I in the same semester. Students can only register for Contract Design II after having obtained approval by Prof. Stremitzer.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>		
851-0742-01 U	Contract Design II <i>The course is going to take place twice a week (Mon and Thurs) during the second half of the Semester (ETH students only).</i>	16s hrs	Mon/2 Thu/2	16-18 12-14	IFW E42 IFW E42	<b>A. Stremitzer</b>

<b>052-0517-21L</b>	<b>Theory and Practice: Heterotopia, Referential Space and Spatial Effects</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>		
052-0517-21 G	Theorie und Praxis: Heterotopie, referenzieller Raum und Raumeffekte <i>Kursdaten: Siehe Raumbelagungen!</i>	2 hrs	Mon	14-18	HCI J6	<b>C. Posthofen</b> , A. Brandhuber

<b>851-0107-00L</b>	<b>Science and the Public: A Problem of Mediation that the Media Have to Solve?</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>		
851-0107-00 S	Wissenschaft und Öffentlichkeit - ein Vermittlungsproblem, das die Medien zu lösen haben? <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>	1 hrs	Wed/2w	14-16	IFW D42	<b>U. J. Wenzel</b>

<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
851-0101-80 G	Grundprobleme der Umweltethik	2 hrs	Wed	16-18	HG G5	<b>L. Wingert</b>

**►► D-BAUG**

Number	Title	Type	ECTS	Hours		Lecturers
<b>851-0738-01L</b>	<b>The Role of Intellectual Property in the Engineering and Technical Sector</b> <i>Particularly suitable for students of D-BAUG, D-BIOL, D-BSSE, D-CHAB, D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>		
851-0738-01 V	Die Rolle des Geistigen Eigentums im Ingenieurwesen und den technischen Wissenschaften	28s hrs	Fri/2w	14-18	LFW B1	<b>K. Houshang Pour Islam</b>
<b>851-0742-00L</b>	<b>Contract Design I</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://laweconbusiness.ethz.ch/group/professor/stremitzer.html">https://laweconbusiness.ethz.ch/group/professor/stremitzer.html</a>). Note that this is</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		

NOT a legal drafting class that focuses on contractual language. Instead, in Contract Design I, you will learn what the content of a contract should be so that parties can reach their goals.

You can find all course materials and the most recent announcements on Moodle. Please log in to Moodle using your ETH or UZH credentials. Then search for "Contract Design I (851-0742-00L; Fall 2021)" and enroll. The password is "ContractDesign01".

Number of participants limited to 160.  
Max 80 ETHZ and 80 UZH Students

851-0742-00 V	Contract Design I The course is going to take place twice a week (Monday and Thursday) during the first half of the Semester.	28s hrs	Mon/1 Thu/1	16-18 12-14	ETF E1 ETF E1	<b>A. Stremitzer</b>
Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.						
<b>851-0707-00L</b>	<b>Space Planning Law and Environment</b> W <b>2 credits</b> <b>2G</b> Particularly suitable for students of D-ARCH, D-BAUG, D-USYS					
851-0707-00 G	Raumplanungsrecht und Umwelt Vorlesungs-/Übungsveranstaltung nach speziellem Programm. Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.	2 hrs	Wed	16-18	HG F5	<b>O. Bucher</b>
<b>701-0703-00L</b>	<b>Environmental Ethics</b> W <b>2 credits</b> <b>2V</b>					
701-0703-00 V	Ethik und Umwelt	2 hrs	Fri	12-14	HG F7	<b>A. Deplazes Zemp</b>
<b>052-0801-00L</b>	<b>Global History of Urban Design I</b> W <b>2 credits</b> <b>2G</b>					
052-0801-00 G	Global History of Urban Design I No course on 28.10. (seminar week) 16./23.12. (before final critiques).	2 hrs	Thu	10-12	HIL E4	<b>T. Avermaete</b>
<b>851-0650-00L</b>	<b>AI4Good</b> W <b>3 credits</b> <b>2G</b>					
851-0650-00 G	AI4Good ■	2 hrs	Thu	10-12	IFW C33	<b>J. D. Wegner</b>
<b>851-0421-00L</b>	<b>Sapiens: A Reading Course</b> W <b>3 credits</b> <b>2S</b>					
851-0421-00 S	Sapiens – Ein wissenschaftshistorischer Lektürekurs	2 hrs	Tue	10-12	IFW C33	<b>N. Guettler</b>
<b>851-0724-01L</b>	<b>Real Estate Property Law</b> W <b>3 credits</b> <b>3V</b> Particularly suitable for students of D-ARCH, D-BAUG, D-USYS					
851-0724-01 V	Immobilienrecht	3 hrs	Mon	17-20	HIL E7	<b>M. Huser, R. Müller-Wyss, S. Stucki</b>
<b>851-0742-01L</b>	<b>Contract Design II</b> W <b>1 credit</b> <b>1U</b> This course is taught by Professor Alexander Stremitzer ( <a href="https://lawecon.ethz.ch/group/professors/stremitzer.html">https://lawecon.ethz.ch/group/professors/stremitzer.html</a> ). To be considered for Contract Design II, you must have completed Contract Design I in the same semester. Students can only register for Contract Design II after having obtained approval by Prof. Stremitzer.					
851-0742-01 U	Contract Design II The course is going to take place twice a week (Mon and Thurs) during the second half of the Semester (ETH students only).	16s hrs	Mon/2 Thu/2	16-18 12-14	IFW E42 IFW E42	<b>A. Stremitzer</b>
<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b> W <b>3 credits</b> <b>2G</b>					
851-0101-80 G	Grundprobleme der Umweltethik	2 hrs	Wed	16-18	HG G5	<b>L. Wingert</b>
<b>►► D-BIOL</b>						
<b>851-0180-00L</b>	<b>Research Ethics</b> W <b>2 credits</b> <b>2G</b> Number of participants limited to 40					
Particularly suitable for students of D-BIOL, D-CHAB, D-HEST						
851-0180-00 G	Research Ethics ■ One additional hour of home work per week will be required	2 hrs	Wed	18-20	LFW C1	<b>G. Achermann, P. Emch</b>
<b>851-0738-01L</b>	<b>The Role of Intellectual Property in the Engineering and Technical Sector</b> W <b>2 credits</b> <b>2V</b> Particularly suitable for students of D-BAUG, D-BIOL, D-BSSE, D-CHAB, D-ITET, D-MAVT					
851-0738-01 V	Die Rolle des Geistigen Eigentums im Ingenieurwesen und den technischen Wissenschaften	28s hrs	Fri/2w	14-18	LFW B1	<b>K. Houshang Pour Islam</b>

<b>851-0732-06L</b>	<b>Law &amp; Tech</b> <i>Number of participants limited to 30.</i>	<b>W</b>	<b>3 credits</b>	<b>3S</b>					
851-0732-06 S	Law & Tech ■ <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			40s hrs	Tue Wed	10-12 10-12	IFW A32.1 IFW A32.1	<b>A. Stremitzer</b> , J. Merane, A. Nielsen	
<b>851-0175-00L</b>	<b>Images of the Human</b> <i>The course consists of a lecture (Monday 6-8pm) and an exercise (Tuesday 10am-12am).</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				<b>J. L. Gastaldi</b>	
851-0175-00 G	Images of the Human			28s hrs	Mon/2w Tue/2w	18-20 10-12	HG D1.2 RZ F21		
<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				<b>L. Wingert</b>	
851-0101-80 G	Grundprobleme der Umweltethik			2 hrs	Wed	16-18	HG G5		
<b>851-0594-04L</b>	<b>One Study, Two Paths: The Dual-Use Dilemma in the Life Sciences</b> <i>Particularly suitable for students (from Bachelor 3rd year onwards) of D-BIOL, D-CHAB, D-HEST</i>  <i>Maximum number of participants limited to 20</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0594-04 S	One Study, Two Paths: The Dual-Use Dilemma in the Life Sciences <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Fri	08-10	IFW E42	<b>M. Gemünden</b> , O. Thränert	

## ►► D-BSSE

Number	Title	Type	ECTS	Hours	Lecturers				
<b>851-0738-01L</b>	<b>The Role of Intellectual Property in the Engineering and Technical Sector</b> <i>Particularly suitable for students of D-BAUG, D-BIOL, D-BSSE, D-CHAB, D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0738-01 V	Die Rolle des Geistigen Eigentums im Ingenieurwesen und den technischen Wissenschaften			28s hrs	Fri/2w	14-18	LFW B1	<b>K. Houshang Pour Islam</b>	
<b>851-0175-00L</b>	<b>Images of the Human</b> <i>The course consists of a lecture (Monday 6-8pm) and an exercise (Tuesday 10am-12am).</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				<b>J. L. Gastaldi</b>	
851-0175-00 G	Images of the Human			28s hrs	Mon/2w Tue/2w	18-20 10-12	HG D1.2 RZ F21		
<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				<b>L. Wingert</b>	
851-0101-80 G	Grundprobleme der Umweltethik			2 hrs	Wed	16-18	HG G5		

## ►► D-CHAB

Number	Title	Type	ECTS	Hours	Lecturers				
<b>851-0180-00L</b>	<b>Research Ethics</b> <i>Number of participants limited to 40</i>  <i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1	<b>G. Achermann</b> , P. Emch	
<b>851-0742-00L</b>	<b>Contract Design I</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://laweconbusiness.ethz.ch/group/professor/stremitzer.html">https://laweconbusiness.ethz.ch/group/professor/stremitzer.html</a>). Note that this is NOT a legal drafting class that focuses on contractual language. Instead, in Contract Design I, you will learn what the content of a contract should be so that parties can reach their goals.</i>  <i>You can find all course materials and the most recent announcements on Moodle. Please log in to Moodle using your ETH or UZH credentials. Then search for "Contract Design I (851-0742-00L; Fall 2021)" and enroll. The password is "ContractDesign01".</i>  <i>Number of participants limited to 160. Max 80 ETHZ and 80 UZH Students</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0742-00 V	Contract Design I <i>The course is going to take place twice a week (Monday and Thursday) during the first half of the Semester.</i>  <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			28s hrs	Mon/1 Thu/1	16-18 12-14	ETF E1 ETF E1	<b>A. Stremitzer</b>	

<b>851-0738-00L</b>	<b>Intellectual Property: Introduction</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
---------------------	--------------------------------------------	----------	------------------	-----------	--	--	--	--	--

Particularly suitable for students of D-CHAB, D-INFK, D-ITET, D-MAVT, D-MATL, D-MTEC							
851-0738-00 V	Geistiges Eigentum: Eine Einführung <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online (via Zoom) statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>	2 hrs	Fri	10-12	HG D7.1	<b>M. Schweizer</b>	
<b>851-0738-01L</b>	<b>The Role of Intellectual Property in the Engineering and Technical Sector</b> <i>Particularly suitable for students of D-BAUG, D-BIOL, D-BSSE, D-CHAB, D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
851-0738-01 V	Die Rolle des Geistigen Eigentums im Ingenieurwesen und den technischen Wissenschaften	28s hrs	Fri/2w	14-18	LFW B1	<b>K. Houshang Pour Islam</b>	
<b>851-0742-01L</b>	<b>Contract Design II</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://lawecon.ethz.ch/group/professors/stremitzer.html">https://lawecon.ethz.ch/group/professors/stremitzer.html</a>). To be considered for Contract Design II, you must have completed Contract Design I in the same semester. Students can only register for Contract Design II after having obtained approval by Prof. Stremitzer.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>			
851-0742-01 U	Contract Design II <i>The course is going to take place twice a week (Mon and Thurs) during the second half of the Semester (ETH students only).</i>	16s hrs	Mon/2 Thu/2	16-18 12-14	IFW E42 IFW E42	<b>A. Stremitzer</b>	
<b>851-0125-65L</b>	<b>A Sampler of Histories and Philosophies of Mathematics</b> <i>Particularly suitable for students D-CHAB, D-INFK, D-ITET, D-MATH, D-PHYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
851-0125-65 V	A Sampler of Histories and Philosophies of Mathematics	2 hrs	Mon	16-18	ML E12	<b>R. Wagner</b>	
<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>			
851-0101-80 G	Grundprobleme der Umweltethik	2 hrs	Wed	16-18	HG G5	<b>L. Wingert</b>	
<b>851-0594-04L</b>	<b>One Study, Two Paths: The Dual-Use Dilemma in the Life Sciences</b> <i>Particularly suitable for students (from Bachelor 3rd year onwards) of D-BIOL, D-CHAB, D-HEST</i>  <i>Maximum number of participants limited to 20</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>			
851-0594-04 S	One Study, Two Paths: The Dual-Use Dilemma in the Life Sciences <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>	2 hrs	Fri	08-10	IFW E42	<b>M. Gemünden, O. Thränert</b>	

## ►► D-ERDW

Number	Title	Type	ECTS	Hours	Lecturers		
<b>701-0703-00L</b>	<b>Environmental Ethics</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
701-0703-00 V	Ethik und Umwelt			2 hrs	Fri	12-14	<b>A. Deplazes Zemp</b>
<b>851-0650-00L</b>	<b>AI4Good</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>			
851-0650-00 G	AI4Good ■			2 hrs	Thu	10-12	<b>J. D. Wegner</b>
<b>851-0421-00L</b>	<b>Sapiens: A Reading Course</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>			
851-0421-00 S	Sapiens – Ein wissenschaftshistorischer Lektürekurs			2 hrs	Tue	10-12	<b>N. Guettler</b>
<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>			
851-0101-80 G	Grundprobleme der Umweltethik			2 hrs	Wed	16-18	<b>L. Wingert</b>

## ►► D-HEST

Number	Title	Type	ECTS	Hours				Lecturers
851-0180-00L	Research Ethics <i>Number of participants limited to 40</i>	W	2 credits	2G				G. Achermann, P. Emch
	<i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>							
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1	
363-1027-00L	Introduction to Health Economics and Policy	W	2 credits	1V				C. Waibel
363-1027-00 V	Introduction to Health Economics and Policy <i>Does not take place this semester. Block course</i>			16s hrs				
851-0745-00L	Ethics Workshop: The Impact of Digital Life on Society <i>Number of participants limited to 40.</i>	W	2 credits	2S				

<i>Open to all Master level / PhD students.</i>								
851-0745-00 S	Ethics Workshop: The Impact of Digital Life on Society ■ <i>Block course three days.</i>			24s hrs	10.11. 11.11. 24.11.	09-17 09-17 09-17	IFW C42 IFW C42 IFW C42	<b>E. Vayena</b> , A. Blasimme, C. Brall, J. Sleight
<b>851-0011-00L</b>	<b>The Body in Global History</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
851-0011-00 S	The Body in Global History			2 hrs	Wed	10-12	HG E33.3	<b>E. Valdameri</b>
<b>851-0421-00L</b>	<b>Sapiens: A Reading Course</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
851-0421-00 S	Sapiens – Ein wissenschaftshistorischer Lektürekurs			2 hrs	Tue	10-12	IFW C33	<b>N. Guettler</b>
<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
851-0101-80 G	Grundprobleme der Umweltethik			2 hrs	Wed	16-18	HG G5	<b>L. Wingert</b>
<b>851-0594-04L</b>	<b>One Study, Two Paths: The Dual-Use Dilemma in the Life Sciences</b> <i>Particularly suitable for students (from Bachelor 3rd year onwards) of D-BIOL, D-CHAB, D-HEST</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
	<i>Maximum number of participants limited to 20</i>							
851-0594-04 S	One Study, Two Paths: The Dual-Use Dilemma in the Life Sciences <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Fri	08-10	IFW E42	<b>M. Gemünden</b> , O. Thränert

## ►► D-INFK

Number	Title	Type	ECTS	Hours					Lecturers
<b>851-0252-01L</b>	<b>Human-Computer Interaction: Cognition and Usability</b> <i>Number of participants limited to 35.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
	<i>Particularly suitable for students of D-ARCH, D-INFK, D-ITET</i>								
851-0252-01 S	Human-Computer Interaction: Cognition and Usability <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Mon	14-16	ON LINE		<b>H. Zhao</b> , S. Credé, C. Hölscher
<b>851-0742-00L</b>	<b>Contract Design I</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://laweconbusiness.ethz.ch/group/professor/stremitzer.html">https://laweconbusiness.ethz.ch/group/professor/stremitzer.html</a>). Note that this is NOT a legal drafting class that focuses on contractual language. Instead, in Contract Design I, you will learn what the content of a contract should be so that parties can reach their goals.</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
	<i>You can find all course materials and the most recent announcements on Moodle. Please log in to Moodle using your ETH or UZH credentials. Then search for "Contract Design I (851-0742-00L; Fall 2021)" and enroll. The password is "ContractDesign01".</i>								
	<i>Number of participants limited to 160. Max 80 ETHZ and 80 UZH Students</i>								
851-0742-00 V	Contract Design I <i>The course is going to take place twice a week (Monday and Thursday) during the first half of the Semester.</i>			28s hrs	Mon/1 Thu/1	16-18 12-14	ETF E1 ETF E1		<b>A. Stremitzer</b>
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>								
<b>851-0727-02L</b>	<b>E-Business-Law</b> <i>Particularly suitable for students of D-INFK, D-ITET</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0727-02 V	E-Business-Recht			2 hrs	Fri	08-10	HG D1.2		<b>D. Rosenthal</b>
<b>851-0738-00L</b>	<b>Intellectual Property: Introduction</b> <i>Particularly suitable for students of D-CHAB, D-INFK, D-ITET, D-MAVT, D-MATL, D-MTEC</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0738-00 V	Geistiges Eigentum: Eine Einführung <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online (via Zoom) statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	HG D7.1		<b>M. Schweizer</b>
<b>851-0252-13L</b>	<b>Network Modeling</b> <i>Particularly suitable for students of D-INFK and in the MSc Data Science</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					

Students are required to have basic knowledge in inferential statistics, such as regression models.

851-0252-13 V	Network Modeling			2 hrs	Mon	16-18	IFW A32.1	<b>C. Stadtfeld, V. Amati</b>
<b>851-0252-15L</b>	<b>Network Analysis</b> <i>Particularly suitable for students of D-INFK, D-MATH</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
851-0252-15 V	Network Analysis			2 hrs	Wed	18-20	ML F36	<b>U. Brandes</b>
<b>851-0732-06L</b>	<b>Law &amp; Tech</b> <i>Number of participants limited to 30.</i>	<b>W</b>	<b>3 credits</b>	<b>3S</b>				
851-0732-06 S	Law & Tech ■ <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			40s hrs	Tue Wed	10-12 10-12	IFW A32.1 IFW A32.1	<b>A. Stremitzer, J. Merane, A. Nielsen</b>
<b>851-0101-86L</b>	<b>Complex Social Systems: Modeling Agents, Learning, and Games</b> <i>Number of participants limited to 100.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
851-0101-86 S	■ <i>Prerequisites: Basic programming skills, elementary probability and statistics.</i> Complex Social Systems: Modeling Agents, Learning, and Games <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	16-18	HG D7.2	<b>N. Antulov-Fantulin, T. Asikis, D. Helbing</b>
<b>851-0760-00L</b>	<b>Building a Robot Judge: Data Science for Decision-Making</b> <i>Particularly suitable for students of D-INFK, D-ITET, D-MTEC</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
851-0760-00 V	Building a Robot Judge: Data Science for Decision-Making <i>Online lecture: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	14-16	ETZ E8	<b>E. Ash</b>
<b>851-0761-00L</b>	<b>Building a Robot Judge: Data Science for Decision-Making (Course Project)</b> <i>This is the optional course project for "Building a Robot Judge: Data Science for the Law."</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
851-0761-00 V	■ <i>Please register only if attending the lecture course or with consent of the instructor.</i> <i>Some programming experience in Python is required, and some experience with text mining is highly recommended.</i> Building a Robot Judge: Data Science for Decision-Making (Course Project) <i>Mondays, 12 - 2 pm. Same dates and room as for the lecture course 851-0760-00 V Building a Robot Judge: Data Science for Decision-Making.</i>			28s hrs				<b>E. Ash</b>
<b>851-0650-00L</b>	<b>AI4Good</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
851-0650-00 G	AI4Good ■			2 hrs	Thu	10-12	IFW C33	<b>J. D. Wegner</b>
<b>851-0175-00L</b>	<b>Images of the Human</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
851-0175-00 G	Images of the Human <i>The course consists of a lecture (Monday 6-8pm) and an exercise (Tuesday 10am-12am).</i>			28s hrs	Mon/2w Tue/2w	18-20 10-12	HG D1.2 RZ F21	<b>J. L. Gastaldi</b>
<b>851-0467-00L</b>	<b>From Traffic Modeling to Smart Cities and Digital Democracies</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
851-0467-00 S	From Traffic Modeling to Smart Cities and Digital Democracies <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	18-20	IFW A32.1	<b>D. Helbing, S. Mahajan</b>
<b>851-0125-65L</b>	<b>A Sampler of Histories and Philosophies of Mathematics</b> <i>Particularly suitable for students D-CHAB, D-INFK, D-ITET, D-MATH, D-PHYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
851-0125-65 V	A Sampler of Histories and Philosophies of Mathematics			2 hrs	Mon	16-18	ML E12	<b>R. Wagner</b>
<b>►► D-ITET</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>860-0023-00L</b>	<b>International Environmental Politics</b> <i>Particularly suitable for students of D-ITET, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3	<b>T. Bernauer</b>
<b>851-0727-02L</b>	<b>E-Business-Law</b> <i>Particularly suitable for students of D-INFK, D-ITET</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
851-0727-02 V	E-Business-Recht			2 hrs	Fri	08-10	HG D1.2	<b>D. Rosenthal</b>



851-0252-01L	<b>Human-Computer Interaction: Cognition and Usability</b> <i>Number of participants limited to 35.</i>  <i>Particularly suitable for students of D-ARCH, D-INFK, D-ITET</i>	W	3 credits	2S					
851-0252-01 S	Human-Computer Interaction: Cognition and Usability <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Mon	14-16	ON LINE	H. Zhao, S. Credé, C. Hölscher	
851-0735-10L	<b>Business Law</b> <i>Number of participants limited to 100</i>  <i>Particularly suitable for students of D-ITET, D-MAVT</i>	W	2 credits	2V					
851-0735-10 V	Wirtschaftsrecht			2 hrs	Thu	14-16	HG D1.2	P. Peyrot	
851-0738-01L	<b>The Role of Intellectual Property in the Engineering and Technical Sector</b> <i>Particularly suitable for students of D-BAUG, D-BIOL, D-BSSE, D-CHAB, D-ITET, D-MAVT</i>	W	2 credits	2V					
851-0738-01 V	Die Rolle des Geistigen Eigentums im Ingenieurwesen und den technischen Wissenschaften			28s hrs	Fri/2w	14-18	LFW B1	K. Houshang Pour Islam	
851-0738-00L	<b>Intellectual Property: Introduction</b> <i>Particularly suitable for students of D-CHAB, D-INFK, D-ITET, D-MAVT, D-MATL, D-MTEC</i>	W	2 credits	2V					
851-0738-00 V	Geistiges Eigentum: Eine Einführung <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online (via Zoom) statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	HG D7.1	M. Schweizer	
851-0732-06L	<b>Law &amp; Tech</b> <i>Number of participants limited to 30.</i>	W	3 credits	3S					
851-0732-06 S	Law & Tech ■ <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			40s hrs	Tue Wed	10-12 10-12	IFW A32.1 IFW A32.1	A. Stremitzer, J. Merane, A. Nielsen	
851-0101-86L	<b>Complex Social Systems: Modeling Agents, Learning, and Games</b> <i>Number of participants limited to 100.</i>  <i>Prerequisites: Basic programming skills, elementary probability and statistics.</i>	W	3 credits	2S					
851-0101-86 S	■ Complex Social Systems: Modeling Agents, Learning, and Games <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	16-18	HG D7.2	N. Antulov-Fantulin, T. Asikis, D. Helbing	
851-0760-00L	<b>Building a Robot Judge: Data Science for Decision-Making</b> <i>Particularly suitable for students of D-INFK, D-ITET, D-MTEC</i>	W	3 credits	2V					
851-0760-00 V	Building a Robot Judge: Data Science for Decision-Making <i>Online lecture: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	14-16	ETZ E8	E. Ash	
851-0761-00L	<b>Building a Robot Judge: Data Science for Decision-Making (Course Project)</b> <i>This is the optional course project for "Building a Robot Judge: Data Science for the Law."</i>  <i>Please register only if attending the lecture course or with consent of the instructor.</i>  <i>Some programming experience in Python is required, and some experience with text mining is highly recommended.</i>	W	2 credits	2V					
851-0761-00 V	Building a Robot Judge: Data Science for Decision-Making (Course Project) <i>Mondays, 12 - 2 pm. Same dates and room as for the lecture course 851-0760-00 V Building a Robot Judge: Data Science for Decision-Making.</i>			28s hrs				E. Ash	
851-0650-00L	<b>AI4Good</b>	W	3 credits	2G					
851-0650-00 G	AI4Good ■			2 hrs	Thu	10-12	IFW C33	J. D. Wegner	
851-0467-00L	<b>From Traffic Modeling to Smart Cities and Digital Democracies</b> <i>Number of participants limited to 50.</i>	W	3 credits	2S					

851-0467-00 S	From Traffic Modeling to Smart Cities and Digital Democracies <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>	2 hrs	Mon	18-20	IFW A32.1	<b>D. Helbing, S. Mahajan</b>
<b>851-0125-65L</b>	<b>A Sampler of Histories and Philosophies of Mathematics</b> <i>Particularly suitable for students D-CHAB, D-INFK, D-ITET, D-MATH, D-PHYS</i>	<b>3 credits</b>	<b>2V</b>			
851-0125-65 V	A Sampler of Histories and Philosophies of Mathematics	2 hrs	Mon	16-18	ML E12	<b>R. Wagner</b>
<b>►► D-MATH</b>						
Number	Title	Type	ECTS	Hours		Lecturers
<b>851-0742-00L</b>	<b>Contract Design I</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://laweconbusiness.ethz.ch/group/Professor/stremitzer.html">https://laweconbusiness.ethz.ch/group/Professor/stremitzer.html</a>). Note that this is NOT a legal drafting class that focuses on contractual language. Instead, in Contract Design I, you will learn what the content of a contract should be so that parties can reach their goals.</i>  <i>You can find all course materials and the most recent announcements on Moodle. Please log in to Moodle using your ETH or UZH credentials. Then search for "Contract Design I (851-0742-00L; Fall 2021)" and enroll. The password is "ContractDesign01".</i>  <i>Number of participants limited to 160. Max 80 ETHZ and 80 UZH Students</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0742-00 V	Contract Design I <i>The course is going to take place twice a week (Monday and Thursday) during the first half of the Semester.</i>  <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			28s hrs	Mon/1 Thu/1	<b>A. Stremitzer</b>
<b>851-0252-15L</b>	<b>Network Analysis</b> <i>Particularly suitable for students of D-INFK, D-MATH</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0252-15 V	Network Analysis			2 hrs	Wed	<b>U. Brandes</b>
<b>853-0061-00L</b>	<b>Introduction to Cybersecurity Politics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
853-0061-00 G	Einführung in die Cybersicherheitspolitik			2 hrs	Wed	<b>M. Dunn Cavelty, F. J. Egloff</b>
<b>853-8002-00L</b>	<b>The Role of Technology in National and International Security Policy</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
853-8002-00 G	Die Rolle von Technologie in nationaler und internationaler Sicherheitspolitik			2 hrs	Tue	<b>M. Haas, A. Dossi, M. Leese, O. Thränert</b>
<b>851-0650-00L</b>	<b>AI4Good</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
851-0650-00 G	AI4Good ■			2 hrs	Thu	<b>J. D. Wegner</b>
<b>851-0175-00L</b>	<b>Images of the Human</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
851-0175-00 G	Images of the Human <i>The course consists of a lecture (Monday 6-8pm) and an exercise (Tuesday 10am-12am).</i>			28s hrs	Mon/2w Tue/2w	<b>J. L. Gastaldi</b>
<b>851-0742-01L</b>	<b>Contract Design II</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://lawecon.ethz.ch/group/professors/stremitzer.html">https://lawecon.ethz.ch/group/professors/stremitzer.html</a>). To be considered for Contract Design II, you must have completed Contract Design I in the same semester. Students can only register for Contract Design II after having obtained approval by Prof. Stremitzer.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>		
851-0742-01 U	Contract Design II <i>The course is going to take place twice a week (Mon and Thurs) during the second half of the Semester (ETH students only).</i>			16s hrs	Mon/2 Thu/2	<b>A. Stremitzer</b>
<b>851-0125-65L</b>	<b>A Sampler of Histories and Philosophies of Mathematics</b> <i>Particularly suitable for students D-CHAB, D-INFK, D-ITET, D-MATH, D-PHYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0125-65 V	A Sampler of Histories and Philosophies of Mathematics			2 hrs	Mon	<b>R. Wagner</b>
<b>851-0197-00L</b>	<b>Medieval and Early Modern Science and Philosophy</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0197-00 V	Medieval and Early Modern Science and Philosophy			2 hrs	Thu	<b>E. Sammarchi</b>
<b>►► D-MATL</b>						

Number	Title	Type	ECTS	Hours					Lecturers
<b>851-0703-00L</b>	<b>Introduction to Law</b> <i>Students who have attended or will attend the lecture "Introduction to Law for Civil Engineering and Architecture " (851-0703-03L) or " Introduction to Law" (851-0708-00L), cannot register for this course unit.</i>  <i>Particularly suitable for students of D-ARCH, D-MAVT, D-MATL</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0703-00 V	Grundzüge des Rechts			2 hrs	Mon	14-16	HG E1.2		<b>O. Streiff Gnöppf</b>
<b>851-0738-00L</b>	<b>Intellectual Property: Introduction</b> <i>Particularly suitable for students of D-CHAB, D-INFK, D-ITET, D-MAVT, D-MATL, D-MTEC</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0738-00 V	Geistiges Eigentum: Eine Einführung <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online (via Zoom) statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	HG D7.1		<b>M. Schweizer</b>
<b>853-0047-01L</b>	<b>World Politics Since 1945: The History of International Relations (Without Exercises)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
853-0047-00 V	Weltpolitik seit 1945: Geschichte der internationalen Beziehungen			2 hrs	Wed	10-12	CAB G11		<b>L. Horovitz</b>
<b>701-0703-00L</b>	<b>Environmental Ethics</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
701-0703-00 V	Ethik und Umwelt			2 hrs	Fri	12-14	HG F7		<b>A. Deplazes Zemp</b>
<b>701-0985-00L</b>	<b>Social Intercourse with Current Environmental Risks</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					
701-0985-00 V	Gesellschaftlicher Umgang mit aktuellen Umweltrisiken <i>Does not take place this semester.</i>			1 hrs					<b>B. Nowack</b>
<b>853-0061-00L</b>	<b>Introduction to Cybersecurity Politics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
853-0061-00 G	Einführung in die Cybersicherheitspolitik			2 hrs	Wed	14-16	HG F3		<b>M. Dunn Cavelty, F. J. Egloff</b>
<b>853-8002-00L</b>	<b>The Role of Technology in National and International Security Policy</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
853-8002-00 G	Die Rolle von Technologie in nationaler und internationaler Sicherheitspolitik			2 hrs	Tue	08-10	IFW A36		<b>M. Haas, A. Dossi, M. Leese, O. Thränert</b>
<b>851-0650-00L</b>	<b>AI4Good</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0650-00 G	AI4Good ■			2 hrs	Thu	10-12	IFW C33		<b>J. D. Wegner</b>
<b>►► D-MTEC</b>									
Number	Title	Type	ECTS	Hours					Lecturers
<b>851-0252-10L</b>	<b>Project in Behavioural Finance</b> <i>Number of participants limited to 40</i>  <i>Particularly suitable for students of D-MTEC</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0252-10 S	Project in Behavioural Finance <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Wed	10-12	ON LINE		<b>S. Andraszewicz, C. Hölscher, A. C. Roberts</b>
<b>851-0738-00L</b>	<b>Intellectual Property: Introduction</b> <i>Particularly suitable for students of D-CHAB, D-INFK, D-ITET, D-MAVT, D-MATL, D-MTEC</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0738-00 V	Geistiges Eigentum: Eine Einführung <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online (via Zoom) statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	HG D7.1		<b>M. Schweizer</b>
<b>363-0565-00L</b>	<b>Principles of Macroeconomics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
363-0565-00 V	Principles of Macroeconomics <i>Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Tue	16-18	ETA F5 ETF E1		<b>J.-E. Sturm</b>
<b>363-0503-00L</b>	<b>Principles of Microeconomics</b> <i>GESS (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L Einführung in die Mikroökonomie.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0503-00 G	Principles of Microeconomics <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	18-20	HG F7		<b>M. Filippini</b>
<b>363-1109-00L</b>	<b>Introduction to Microeconomics</b> <i>GESS (Science in Perspective): This course is only for students enrolled in a Bachelor's degree programme.</i>  <i>Students enrolled in a Master's degree</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					

programme may attend "Principles of Microeconomics" (LE 363-0503-00L) instead.

Note for D-MAVT students: If you have already successfully completed "Principles of Microeconomics" (LE 363-0503-00L), then you will not be permitted to attend it again.

363-1109-00 G	Einführung in die Mikroökonomie Zusätzliche (freiwillige) Termine für Übungen zur Vorlesung werden zu Beginn der Vorlesung bekanntgegeben.	2 hrs	Tue	10-12	HG E5	M. Wörter, M. Beck
<b>363-1044-00L</b>	<b>Applied Negotiation Seminar</b> Number of participants limited to 30.	<b>W</b>	<b>3 credits</b>	<b>2S</b>		
	Prerequisites: Successful completion of lectures "363-1039-00L Introduction to Negotiation".					
363-1044-00 S	Applied Negotiation Seminar ■ Permission from lecturers required for all students Block course	22s hrs	01.10.	09-17	HG E33.1 HG E33.3 HG E33.5	A. Knobel
			02.10.	09-17	HG E33.1 HG E33.3 HG E33.5	
			15.10.	09-17	HG E33.1 HG E33.3 HG E33.5	
			16.10.	09-17	HG E33.1 HG E33.3 HG E33.5	
<b>851-0742-00L</b>	<b>Contract Design I</b> This course is taught by Professor Alexander Stremitzer ( <a href="https://laweconbusiness.ethz.ch/group/professor/stremitzer.html">https://laweconbusiness.ethz.ch/group/professor/stremitzer.html</a> ). Note that this is NOT a legal drafting class that focuses on contractual language. Instead, in Contract Design I, you will learn what the content of a contract should be so that parties can reach their goals.  You can find all course materials and the most recent announcements on Moodle. Please log in to Moodle using your ETH or UZH credentials. Then search for "Contract Design I (851-0742-00L; Fall 2021)" and enroll. The password is "ContractDesign01".  Number of participants limited to 160. Max 80 ETHZ and 80 UZH Students	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0742-00 V	Contract Design I The course is going to take place twice a week (Monday and Thursday) during the first half of the Semester.  Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.	28s hrs	Mon/1 Thu/1	16-18 12-14	ETF E1 ETF E1	A. Stremitzer
<b>851-0732-06L</b>	<b>Law &amp; Tech</b> Number of participants limited to 30.	<b>W</b>	<b>3 credits</b>	<b>3S</b>		
851-0732-06 S	Law & Tech ■ Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.	40s hrs	Tue Wed	10-12 10-12	IFW A32.1 IFW A32.1	A. Stremitzer, J. Merane, A. Nielsen
<b>851-0760-00L</b>	<b>Building a Robot Judge: Data Science for Decision-Making</b> Particularly suitable for students of D-INFK, D-ITET, D-MTEC	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
851-0760-00 V	Building a Robot Judge: Data Science for Decision-Making Online lecture: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.	2 hrs	Mon	14-16	ETZ E8	E. Ash
<b>851-0761-00L</b>	<b>Building a Robot Judge: Data Science for Decision-Making (Course Project)</b> This is the optional course project for "Building a Robot Judge: Data Science for the Law."  Please register only if attending the lecture course or with consent of the instructor.  Some programming experience in Python is required, and some experience with text mining is highly recommended.	<b>W</b>	<b>2 credits</b>	<b>2V</b>		

851-0761-00 V	Building a Robot Judge: Data Science for Decision-Making (Course Project) <i>Mondays, 12 - 2 pm. Same dates and room as for the lecture course 851-0760-00 V Building a Robot Judge: Data Science for Decision-Making.</i>			28s hrs					<b>E. Ash</b>
<b>851-0650-00L</b>	<b>AI4Good</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0650-00 G	AI4Good ■			2 hrs	Thu	10-12	IFW C33		<b>J. D. Wegner</b>
<b>851-0742-01L</b>	<b>Contract Design II</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://lawecon.ethz.ch/group/professors/stremitzer.html">https://lawecon.ethz.ch/group/professors/stremitzer.html</a>). To be considered for Contract Design II, you must have completed Contract Design I in the same semester. Students can only register for Contract Design II after having obtained approval by Prof. Stremitzer.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>					
851-0742-01 U	Contract Design II <i>The course is going to take place twice a week (Mon and Thurs) during the second half of the Semester (ETH students only).</i>			16s hrs	Mon/2 Thu/2	16-18 12-14	IFW E42 IFW E42		<b>A. Stremitzer</b>
<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0101-80 G	Grundprobleme der Umweltethik			2 hrs	Wed	16-18	HG G5		<b>L. Wingert</b>
<b>►► D-MAVT</b>									
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>					<b>Lecturers</b>
<b>851-0742-00L</b>	<b>Contract Design I</b> <i>This course is taught by Professor Alexander Stremitzer (<a href="https://laweconbusiness.ethz.ch/group/professor/stremitzer.html">https://laweconbusiness.ethz.ch/group/professor/stremitzer.html</a>). Note that this is NOT a legal drafting class that focuses on contractual language. Instead, in Contract Design I, you will learn what the content of a contract should be so that parties can reach their goals.</i>  <i>You can find all course materials and the most recent announcements on Moodle. Please log in to Moodle using your ETH or UZH credentials. Then search for "Contract Design I (851-0742-00L; Fall 2021)" and enroll. The password is "ContractDesign01".</i>  <i>Number of participants limited to 160. Max 80 ETHZ and 80 UZH Students</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0742-00 V	Contract Design I <i>The course is going to take place twice a week (Monday and Thursday) during the first half of the Semester.</i>  <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			28s hrs	Mon/1 Thu/1	16-18 12-14	ETF E1 ETF E1		<b>A. Stremitzer</b>
<b>851-0738-01L</b>	<b>The Role of Intellectual Property in the Engineering and Technical Sector</b> <i>Particularly suitable for students of D-BAUG, D-BIOL, D-BSSE, D-CHAB, D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0738-01 V	Die Rolle des Geistigen Eigentums im Ingenieurwesen und den technischen Wissenschaften			28s hrs	Fri/2w	14-18	LFW B1		<b>K. Houshang Pour Islam</b>
<b>851-0738-00L</b>	<b>Intellectual Property: Introduction</b> <i>Particularly suitable for students of D-CHAB, D-INFK, D-ITET, D-MAVT, D-MATL, D-MTEC</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0738-00 V	Geistiges Eigentum: Eine Einführung <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online (via Zoom) statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	HG D7.1		<b>M. Schweizer</b>
<b>851-0735-10L</b>	<b>Business Law</b> <i>Number of participants limited to 100</i>  <i>Particularly suitable for students of D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0735-10 V	Wirtschaftsrecht			2 hrs	Thu	14-16	HG D1.2		<b>P. Peyrot</b>
<b>851-0703-00L</b>	<b>Introduction to Law</b> <i>Students who have attended or will attend the lecture "Introduction to Law for Civil Engineering and Architecture " (851-0703-03L) or " Introduction to Law" (851-0708-00L), cannot register for this course unit.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					

Particularly suitable for students of D-ARCH, D-MAVT, D-MATL									
851-0703-00 V	Grundzüge des Rechts			2 hrs	Mon	14-16	HG E1.2	<b>O. Streiff Gnöppf</b>	
<b>853-0047-01L</b>	<b>World Politics Since 1945: The History of International Relations (Without Exercises)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
853-0047-00 V	Weltpolitik seit 1945: Geschichte der internationalen Beziehungen			2 hrs	Wed	10-12	CAB G11	<b>L. Horovitz</b>	
<b>853-0725-00L</b>	<b>History Part One: Europe (The Cradle of Modernity, Britain, 1789-1914)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
853-0725-00 V	Geschichte I: Europa (Grossbritannien, Mutterland der Moderne, 1789-1914)			2 hrs	Wed	14-16	ML E12	<b>H. Fischer-Tiné</b>	
<b>701-0703-00L</b>	<b>Environmental Ethics</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
701-0703-00 V	Ethik und Umwelt			2 hrs	Fri	12-14	HG F7	<b>A. Deplazes Zemp</b>	
<b>701-0985-00L</b>	<b>Social Intercourse with Current Environmental Risks</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					
701-0985-00 V	Gesellschaftlicher Umgang mit aktuellen Umweltrisiken <i>Does not take place this semester.</i>			1 hrs				<b>B. Nowack</b>	
<b>853-0061-00L</b>	<b>Introduction to Cybersecurity Politics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
853-0061-00 G	Einführung in die Cybersicherheitspolitik			2 hrs	Wed	14-16	HG F3	<b>M. Dunn Cavelty, F. J. Egloff</b>	
<b>853-8002-00L</b>	<b>The Role of Technology in National and International Security Policy</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
853-8002-00 G	Die Rolle von Technologie in nationaler und internationaler Sicherheitspolitik			2 hrs	Tue	08-10	IFW A36	<b>M. Haas, A. Dossi, M. Leese, O. Thränert</b>	
<b>851-0650-00L</b>	<b>AI4Good</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0650-00 G	AI4Good ■			2 hrs	Thu	10-12	IFW C33	<b>J. D. Wegner</b>	
<b>851-0742-01L</b>	<b>Contract Design II</b> <i>This course is taught by Professor Alexander Stremitzer (https://lawecon.ethz.ch/group/professors/stremitzer.html). To be considered for Contract Design II, you must have completed Contract Design I in the same semester. Students can only register for Contract Design II after having obtained approval by Prof. Stremitzer.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>					
851-0742-01 U	Contract Design II <i>The course is going to take place twice a week (Mon and Thurs) during the second half of the Semester (ETH students only).</i>			16s hrs	Mon/2 Thu/2	16-18 12-14	IFW E42 IFW E42	<b>A. Stremitzer</b>	

## ►► D-PHYS

Number	Title	Type	ECTS	Hours	Lecturers				
<b>851-0101-86L</b>	<b>Complex Social Systems: Modeling Agents, Learning, and Games</b> <i>Number of participants limited to 100.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
<i>Prerequisites: Basic programming skills, elementary probability and statistics.</i>									
851-0101-86 S	Complex Social Systems: Modeling Agents, Learning, and Games ■ <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	16-18	HG D7.2	<b>N. Antulov-Fantulin, T. Asikis, D. Helbing</b>	
<b>851-0650-00L</b>	<b>AI4Good</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0650-00 G	AI4Good ■			2 hrs	Thu	10-12	IFW C33	<b>J. D. Wegner</b>	
<b>851-0175-00L</b>	<b>Images of the Human</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
851-0175-00 G	Images of the Human <i>The course consists of a lecture (Monday 6-8pm) and an exercise (Tuesday 10am-12am).</i>			28s hrs	Mon/2w Tue/2w	18-20 10-12	HG D1.2 RZ F21	<b>J. L. Gastaldi</b>	
<b>851-0125-65L</b>	<b>A Sampler of Histories and Philosophies of Mathematics</b> <i>Particularly suitable for students D-CHAB, D-INFK, D-ITET, D-MATH, D-PHYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0125-65 V	A Sampler of Histories and Philosophies of Mathematics			2 hrs	Mon	16-18	ML E12	<b>R. Wagner</b>	
<b>851-0197-00L</b>	<b>Medieval and Early Modern Science and Philosophy</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0197-00 V	Medieval and Early Modern Science and Philosophy			2 hrs	Thu	12-14	IFW A36	<b>E. Sammarchi</b>	
<b>851-0742-01L</b>	<b>Contract Design II</b> <i>This course is taught by Professor Alexander Stremitzer (https://lawecon.ethz.ch/group/professors/stremitzer.html). To be considered for Contract Design II, you must have completed Contract Design I in the same semester. Students can only register for Contract Design II after having obtained approval by Prof. Stremitzer.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>					

851-0742-01 U	Contract Design II <i>The course is going to take place twice a week (Mon and Thurs) during the second half of the Semester (ETH students only).</i>	16s hrs	Mon/2 Thu/2	16-18 12-14	IFW E42 IFW E42	<b>A. Stremitzer</b>
---------------	---------------------------------------------------------------------------------------------------------------------------------------------------------	---------	----------------	----------------	--------------------	----------------------

## ►► D-USYS

Number	Title	Type	ECTS	Hours	Lecturers	
<b>860-0023-00L</b>	<b>International Environmental Politics</b> <i>Particularly suitable for students of D-ITET, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18 HG F3 <b>T. Bernauer</b>
<b>851-0707-00L</b>	<b>Space Planning Law and Environment</b> <i>Particularly suitable for students of D-ARCH, D-BAUG, D-USYS</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>		
851-0707-00 G	Raumplanungsrecht und Umwelt <i>Vorlesungs-/Übungsveranstaltung nach speziellem Programm. Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Wed	16-18 HG F5 <b>O. Bucher</b>
<b>701-0703-00L</b>	<b>Environmental Ethics</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>		
701-0703-00 V	Ethik und Umwelt			2 hrs	Fri	12-14 HG F7 <b>A. Deplazes Zemp</b>
<b>701-0747-00L</b>	<b>Environmental Policy of Switzerland</b> <i>Number of participants limited to 130. Priority is given to the target group: Bachelor Study programme Environmental Sciences until September 27th, 2021. Waiting list will be deleted October 1st, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
701-0747-00 G	Umweltpolitik der Schweiz			2 hrs	Mon	12-14 HG E1.1 <b>E. Lieberherr</b>
<b>701-0985-00L</b>	<b>Social Intercourse with Current Environmental Risks</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>		
701-0985-00 V	Gesellschaftlicher Umgang mit aktuellen Umweltrisiken <i>Does not take place this semester.</i>			1 hrs	<b>B. Nowack</b>	
<b>851-0650-00L</b>	<b>AI4Good</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
851-0650-00 G	AI4Good ■			2 hrs	Thu	10-12 IFW C33 <b>J. D. Wegner</b>
<b>851-0175-00L</b>	<b>Images of the Human</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
851-0175-00 G	Images of the Human <i>The course consists of a lecture (Monday 6-8pm) and an exercise (Tuesday 10am-12am).</i>			28s hrs	Mon/2w Tue/2w	18-20 10-12 HG D1.2 RZ F21 <b>J. L. Gastaldi</b>
<b>851-0421-00L</b>	<b>Sapiens: A Reading Course</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>		
851-0421-00 S	Sapiens – Ein wissenschaftshistorischer Lektürekurs			2 hrs	Tue	10-12 IFW C33 <b>N. Guettler</b>
<b>851-0724-01L</b>	<b>Real Estate Property Law</b> <i>Particularly suitable for students of D-ARCH, D-BAUG, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>3V</b>		
851-0724-01 V	Immobilienrecht			3 hrs	Mon	17-20 HIL E7 <b>M. Huser, R. Müller-Wyss, S. Stucki</b>
<b>851-0101-80L</b>	<b>Basic Problems of Environmental Ethics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
851-0101-80 G	Grundprobleme der Umweltethik			2 hrs	Wed	16-18 HG G5 <b>L. Wingert</b>

## ► Language Courses of the UZH and ETH Zurich

A maximum of three credits from language courses may be recognised. In addition, only advanced courses (level B2 upwards) in the European languages English, French, Italian and Spanish are recognised. German language courses are recognised from level C2 upwards.

Course fees: <https://www.sprachenzentrum.uzh.ch/en/angebot/Kursgebuehren.html>  
Registration dates: <https://www.sprachenzentrum.uzh.ch/en/angebot.html>

Number	Title	Type	ECTS	Hours	Lecturers
851-0816-07L	<b>French B2-C1: Language and Literature</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a>  Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a></i>	W	2 credits	1G	
851-0816-07 G	Français B2-C1 : Langue et littérature (Sprachenzentrum) <b>**Kurs vom Sprachenzentrum der UZH und der ETH Zürich**</b>			14s hrs	University lecturers
851-0815-04L	<b>French B2: Brush Up Your Skills</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees:</i>	W	2 credits	2G	

[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0815-04 G	Français B2 : Mise à niveau (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**	2 hrs	University lecturers
---------------	----------------------------------------------------------------------------------------------------------	-------	----------------------

---

<b>851-0816-15L</b>	<b>French B2: Debating and Presentation Skills</b>	<b>W</b>	<b>1 credit</b>	<b>1G</b>
---------------------	----------------------------------------------------	----------	-----------------	-----------

No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0816-15 G	Français B2 : Débat et présentation orale (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**	14s hrs	University lecturers
---------------	------------------------------------------------------------------------------------------------------------------------	---------	----------------------

---

<b>851-0816-08L</b>	<b>French B2-C1: Debating and Presentation Skills</b>	<b>W</b>	<b>1 credit</b>	<b>1G</b>
---------------------	-------------------------------------------------------	----------	-----------------	-----------

No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0816-08 G	Français B2-C1 : Débat et présentation orale (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**	14s hrs	University lecturers
---------------	---------------------------------------------------------------------------------------------------------------------------	---------	----------------------

---

<b>851-0816-05L</b>	<b>French B2-C1: Textual Grammar</b>	<b>W</b>	<b>2 credits</b>	<b>1G</b>
---------------------	--------------------------------------	----------	------------------	-----------

No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0816-05 G	Français B2-C1 : Grammaire textuelle (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**	20s hrs	University lecturers
---------------	-------------------------------------------------------------------------------------------------------------------	---------	----------------------

---

<b>851-0826-06L</b>	<b>Italian B2-C1: Outside the Classroom</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>
---------------------	---------------------------------------------	----------	------------------	-----------

No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0826-06 G	Italiano B2-C1: Fuori dall'aula (Sprachenzentrum) Does not take place this semester. **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**	2 hrs	University lecturers
---------------	----------------------------------------------------------------------------------------------------------------------------------------------------	-------	----------------------

---

<b>851-0826-03L</b>	<b>Italian B2-C1: Language Structure</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>
---------------------	------------------------------------------	----------	------------------	-----------

No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)



851-0826-03 G	Italiano B2-C1: Strutture della lingua (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**		2 hrs		University lecturers
<b>851-0823-00L</b>	<b>English Language and Literature (C1-C2) W</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a></i>  <i>Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a></i>	<b>2 credits</b>	<b>2G</b>		
851-0823-00 G	English Language and Literature (C1-C2) (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**		2 hrs		University lecturers
<b>851-0832-10L</b>	<b>Advanced English for Academic Purposes (C1-C2) W</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a></i>  <i>Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a></i>	<b>2 credits</b>	<b>2G</b>		
851-0832-10 G	Advanced English for Academic Purposes (C1-C2) (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**  <i>Die Lehrveranstaltung wird in 2 Parallelkursen angeboten.</i>		2 hrs		University lecturers
<b>851-0846-01L</b>	<b>Spanish B2: Starter W</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a></i>  <i>Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a></i>	<b>2 credits</b>	<b>2G</b>		
851-0846-01 G	Español B2: Inicial (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**		2 hrs		University lecturers
<b>851-0846-03L</b>	<b>Spanish B2: Grammar and Communication W</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a></i>  <i>Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a></i>	<b>2 credits</b>	<b>2G</b>		
851-0846-03 G	Español B2: Gramática y comunicación (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**		2 hrs		University lecturers
<b>851-0849-00L</b>	<b>Brazilian Portuguese A1 W</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a></i>  <i>Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a></i>	<b>2 credits</b>	<b>2G</b>		

851-0849-00	G	Português brasileiro A1 (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**		2 hrs	University lecturers
Unterrichtssprache: Brasilianisch-Portugiesisch					
851-0849-01L		<b>Brazilian Portuguese A2</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>
No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".					
Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a>					
Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a>					
851-0849-01	G	Português brasileiro A2 (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**		2 hrs	University lecturers
Unterrichtssprache: Brasilianisch-Portugiesisch					
851-0849-02L		<b>Brazilian Portuguese B1</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>
No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".					
Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a>					
Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a>					
851-0849-02	G	Português brasileiro B1 (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**		2 hrs	University lecturers
Unterrichtssprache: Brasilianisch-Portugiesisch					
851-0885-09L		<b>Modern Greek Language I A1.1</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>
No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".					
Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a>					
Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a>					
851-0885-09	G	Neugriechisch I A1.1 (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**		2 hrs	University lecturers
851-0885-10L		<b>Modern Greek Language III A2.1</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>
No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".					
Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a>					
Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a>					
851-0885-10	G	Neugriechisch III A2.1 (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**		2 hrs	University lecturers
851-0889-00L		<b>Swedish I A1.2</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>
No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".					
Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a>					
Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a>					
851-0889-00	G	Schwedisch I A1.2 (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**		2 hrs	University lecturers
Die Lehrveranstaltung wird in 2 Parallelkursen angeboten.					

851-0889-02L	<b>Swedish II A2.1</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees:</i> <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a>  <i>Registration dates:</i> <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a>	W	2 credits	2G	
851-0889-02 G	Schwedisch II A2.1 (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**			2 hrs	University lecturers
851-0851-00L	<b>Russian I A1.1</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees:</i> <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a>  <i>Registration dates:</i> <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a>	W	2 credits	2G	
851-0851-00 G	Russisch I A1.1 (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**			2 hrs	University lecturers
851-0853-00L	<b>Russian III A2.1</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees:</i> <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a>  <i>Registration dates:</i> <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a>	W	2 credits	2G	
851-0853-00 G	Russisch III A2.1 (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**			2 hrs	University lecturers
851-0855-00L	<b>Russian V A2.2+</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees:</i> <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a>  <i>Registration dates:</i> <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a>	W	2 credits	2G	
851-0855-00 G	Russisch V A2.2+ (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**			2 hrs	University lecturers
851-0861-01L	<b>Arabic I A1.1</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees:</i> <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a>  <i>Registration dates:</i> <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a>	W	2 credits	3G	
851-0861-01 G	Arabisch I A1.1 (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**			3 hrs	University lecturers
851-0863-00L	<b>Arabic III A2.1</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees:</i>	W	2 credits	2G	

[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0863-00 G Arabisch III A2.1 (Sprachenzentrum) 2 hrs University lecturers  
\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\*

**851-0877-00L Chinese I A1.1 W 3 credits 4G**  
No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0877-00 G Chinesisch I A1.1 (Sprachenzentrum) 4 hrs University lecturers  
\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\*

Die Lehrveranstaltung wird in 2 Parallelkursen angeboten.

**851-0879-00L Chinese III A2.1 W 3 credits 4G**  
No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0879-00 G Chinesisch III A2.1 (Sprachenzentrum) 4 hrs University lecturers  
\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\*

**851-0881-00L Japanese I A1.1 W 3 credits 4G**  
No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0881-00 G Japanisch I A1.1 (Sprachenzentrum) 4 hrs University lecturers  
\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\*

Die Lehrveranstaltung wird in 2 Parallelkursen angeboten.

**851-0881-02L Japanese 1 (A1.1) W 2 credits 2G**  
No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0881-02 G Japanisch 1 (A1.1) (Sprachenzentrum) 2 hrs University lecturers  
\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\*

**851-0883-00L Japanese III A2.1 W 2 credits 2G**  
No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
[https://www.sprachenzentrum.uzh.ch/en/Sp  
rachkurse/Kursgebuehren1.html](https://www.sprachenzentrum.uzh.ch/en/Sp<br/>rachkurse/Kursgebuehren1.html)

Registration dates:  
[https://www.sprachenzentrum.uzh.ch/en/an  
gebot.html](https://www.sprachenzentrum.uzh.ch/en/an<br/>gebot.html)

851-0883-00	G	Japanisch III A2.1 (Sprachenzentrum) <b>**Kurs vom Sprachenzentrum der UZH und der ETH Zürich**</b>			2 hrs	University lecturers
<b>851-0882-02L</b>		<b>Japanese V A2.2 - B1.1</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a></i>  <i>Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a></i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
851-0882-02	G	Japanisch V A2.2 - B1.1 (Sprachenzentrum) <b>**Kurs vom Sprachenzentrum der UZH und der ETH Zürich**</b>			2 hrs	University lecturers
<b>851-0890-00L</b>		<b>Latin Reading Course: "Carmina Burana: Vagabond Songs and their Sources"</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a></i>  <i>Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a></i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
851-0890-00	G	Lateinischer Lektürekurs: "Carmina Burana: Vagantendichtungen und ihre Vorbilder" <i>Does not take place this semester. **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**</i>			2 hrs	University lecturers
<b>851-0900-03L</b>		<b>Advanced Norwegian Practice (University of Zürich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 360-214</i>  <i>Number of participants limited to 20. No simultaneous online registration at the "Language Center of UZH and ETH Zurich" necessary.</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/appli&lt;br/&gt;cation/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/appli cation/deadlines.html</a></i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>	
851-0900-03	G	Sprachpraxis Norwegisch (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			2 hrs	University lecturers
<b>851-0856-06L</b>		<b>Spanish B2-C1: The Realities of the Hispanic World</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a></i>  <i>Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a></i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
851-0856-06	G	Español B2-C1: Realidades del mundo hispano (Sprachenzentrum) <i>Does not take place this semester. **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**</i>			2 hrs	University lecturers
<b>851-0827-01L</b>		<b>French B2.2-C1: Society and Current Issues</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sp&lt;br/&gt;rachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sp rachkurse/Kursgebuehren1.html</a></i>  <i>Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/an&lt;br/&gt;gebot.html">https://www.sprachenzentrum.uzh.ch/en/an gebot.html</a></i>	<b>W</b>	<b>2 credits</b>	<b>1G</b>	

851-0827-01 G Français B2.2-C1 : Société et questions d'actualité (Sprachenzentrum) 20s hrs University lecturers  
*Does not take place this semester.*  
*\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\**

---

**851-0849-03L Brazilian Portuguese A2-B2: Urban Popular Music** W 2 credits 1G  
*No enrolment to this course at ETH Zurich.*  
*Book the corresponding course directly at "Language Center of UZH and ETH Zürich".*

Course fees:  
<https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html>

Registration dates:  
<https://www.sprachenzentrum.uzh.ch/en/angebot.html>

851-0849-03 G Português brasileiro A2-B2: Música popular urbana (Sprachenzentrum) 1 hrs University lecturers  
*\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\**

*Unterrichtssprache: Brasilianisch-Portugiesisch*

---

**851-0846-02L Spanish B2-C1: Language and Cinema** W 2 credits 2G  
*No enrolment to this course at ETH Zurich.*  
*Book the corresponding course directly at "Language Center of UZH and ETH Zürich".*

Course fees:  
<https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html>

Registration dates:  
<https://www.sprachenzentrum.uzh.ch/en/angebot.html>

851-0846-02 G Español B2-C1: Lengua y cine (Sprachenzentrum) 2 hrs University lecturers  
*\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\**

---

**851-0856-04L Spanish B2-C1: Grammar and Communication** W 2 credits 2G  
*No enrolment to this course at ETH Zurich.*  
*Book the corresponding course directly at "Language Center of UZH and ETH Zürich".*

Course fees:  
<https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html>

Registration dates:  
<https://www.sprachenzentrum.uzh.ch/en/angebot.html>

851-0856-04 G Español B2-C1: Gramática y comunicación (Sprachenzentrum) 2 hrs University lecturers  
*Does not take place this semester.*  
*\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\**

---

**851-0816-13L French B2.2-C2: Practising French in Context** W 1 credit 1G  
*No enrolment to this course at ETH Zurich.*  
*Book the corresponding course directly at "Language Center of UZH and ETH Zürich".*

Course fees:  
<https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html>

Registration dates:  
<https://www.sprachenzentrum.uzh.ch/en/angebot.html>

851-0816-13 G Français B2.2-C2 : Pratiques du français en contexte (Sprachenzentrum) 14s hrs University lecturers  
*Does not take place this semester.*  
*\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\**

---

**851-0820-01L French B2-C1: Language and Cinema** W 2 credits 1G  
*No enrolment to this course at ETH Zurich.*  
*Book the corresponding course directly at "Language Center of UZH and ETH Zürich".*

Course fees:  
<https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html>

Registration dates:

<a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a>				
851-0820-01 G	Français B2-C1 : Langue et cinéma (Sprachenzentrum) Does not take place this semester. **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**	20s hrs	University lecturers	
<b>851-0834-17L</b>	<b>Spanish B2: Oral Interaction</b> <b>W</b> <b>2 credits</b> <b>2G</b> No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".  Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a>  Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a>			
851-0834-17 G	Español B2: Interacción oral (Sprachenzentrum) Does not take place this semester. **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**	2 hrs	University lecturers	
<b>851-0826-04L</b>	<b>Italian B2-C1: Language and Literature</b> <b>W</b> <b>2 credits</b> <b>2G</b> No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".  Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a>  Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a>			
851-0826-04 G	Italiano B2-C1: Lingua e letteratura (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**	2 hrs	University lecturers	
<b>851-0826-05L</b>	<b>Italian B2: Italian for Academic Purposes</b> <b>W</b> <b>2 credits</b> <b>1G</b> No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".  Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a>  Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a>			
851-0826-05 G	Italiano B2: Lingua in contesto specifico (Sprachenzentrum) **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**	14s hrs	University lecturers	
<b>851-0879-01L</b>	<b>Chinese V 2.2+</b> <b>W</b> <b>2 credits</b> <b>2G</b> No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".  Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a>  Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a>			
851-0879-01 G	Chinesisch V A2.2+ ■ **Kurs vom Sprachenzentrum der UZH und der ETH Zürich**	2 hrs	University lecturers	

#### GESS Science in Perspective - Key for Type

W+	Eligible for credits and recommended	E-	Recommended, not eligible for credits
O	Compulsory	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.



# Health Sciences and Technology Bachelor

## ► Bachelor Studies (Programme Regulations 2020)

### ►► First Year Core Courses

### ►►► First Year Examinations

### ►►►► First Year Examinations Part 1

Number	Title	Type	ECTS	Hours					Lecturers
<b>551-0033-00L</b>	<b>Molecular Genetics and Cell Biology</b> <i>Only for Health Sciences and Technology BSc and Human Medicine BSc.</i>	<b>O</b>	<b>5 credits</b>	<b>5G</b>					
551-0033-00 G	Molekulare Genetik und Zellbiologie <i>Vorlesung mit Übungen: Mi 14-16 h</i> <i>Vorlesung: Do 10-12 h</i> <i>Übungen: Fr 11-12 h</i>			5 hrs	Wed	14-16	HG E1.2 HG E7 HPH G1 HCI D8 HCI E2 HIL B21 HIL D10.2 HIT K51 HPL D32 HPL D34		<b>J. Corn</b> , F. Allain, K. Köhler
					Thu	10-12			
					Fri	11-12			
<b>529-1001-03L</b>	<b>General Chemistry (for HST)</b>	<b>O</b>	<b>6 credits</b>	<b>4V+2U</b>					
529-1001-01 V	Allgemeine Chemie (für Biol./Pharm.Wiss./HST) <i>Di 10-12 Uhr im HG F1 mit Videoübertragung ins HG F3</i> <i>Do 8-10 Uhr im HCI G3 mit Videoübertragung ins HCI G7</i>			4 hrs	Tue	10-12	HG F1 HG F3 HCI G3 HCI G7		<b>J. Cvengros</b>
					Thu	08-10			
529-1001-03 U	Allgemeine Chemie (für HST)			2 hrs	Wed	16-18	CHN E42 CHN F42 LFO C13 ML F38 NO C6		<b>J. Cvengros</b>
<b>252-0852-00L</b>	<b>Foundations of Computer Science</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>					
252-0852-00 V	Grundlagen der Informatik <i>Vorlesung im HG F1 mit Videoübertragung ins HG F3.</i>			2 hrs	Mon	14-16	HG F1 HG F3		<b>L. E. Fässler</b> , M. Dahinden
252-0852-00 U	Grundlagen der Informatik <i>Es gibt keine fixen Übungsgruppen. Stattdessen besprechen die Studierenden alle 2 Wochen eine Projektaufgabe individuell mit einer Assistenzperson. Die restlichen Zeiten stehen für die Bearbeitung der Projektaufgaben zur Verfügung.</i>			2 hrs	Mon	10-12	CAB H56 CAB H57 HG E26.1 HG E26.3 HG E27 CAB H56 CAB H57 HG E19 HG E26.1 HG E26.3 HG E19 HG E26.1 HG E26.3 HG E27 HG D12		<b>L. E. Fässler</b> , M. Dahinden
						16-18			
					Wed	18-19			
					Fri	16-18			
<b>376-0003-00L</b>	<b>Introduction to Health Sciences and Technology I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>					
376-0003-00 V	Einführung Gesundheitswissenschaften und Technologie I ■			2 hrs	Mon	12-14	HG E7		<b>R. Müller</b>
376-0003-00 U	Einführung Gesundheitswissenschaften und Technologie I ■ <i>Groups are selected in myStudies.</i> <i>Die Übungen starten erst in der 3. Semesterwoche!</i>			2 hrs	Wed	08-10	HCP E47.1 HCP E47.2 HCP E47.4 HIT F31.1 HIT F32 HIT H42 HIT H51 HIT J51 HIT J52 HIT J53		<b>R. Müller</b>

### ►►►► First Year Examinations Part 2

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-1011-00L</b>	<b>Organic Chemistry I (for Biol./Pharm.Sc./HST)</b>	<b>O</b>	<b>4 credits</b>	<b>4G</b>					

529-1011-00 G	Organische Chemie I (für Biol./Pharm.Wiss./HST) <i>Groups are selected in myStudies.</i> <i>Vorlesung: Mi 10-12 Uhr im HCI G3 mit Videoübertragung ins HCI G7</i> <i>In den ersten beiden Wochen findet auch Fr 14-16 Vorlesung im HPH G 1 statt.</i>  <i>Die Übungen beginnen in der dritten Semesterwoche und sind wie folgt vorgesehen: Fr 14-16 oder 16-18 Uhr (nach Einteilung).</i>	4 hrs	Wed	10-12	HCI G3 HCI G7 HCI D2 HCI D4 HCI D6 HCI D8 HCI E2 HCI E8 HCI F2 HCI F8 HCI G7 HPK D24.2 HPV G4 HPV G5	C. Thilgen	
			Fri	14-16	HCI D2 HCI D4 HCI D6 HCI D8 HCI E2 HCI E8 HCI F2 HCI F8 HCI G7 HPK D24.2 HPV G4 HPV G5		
					16-18	HCI D2 HCI D4 HCI D6 HCI D8 HCI E2 HCI E8 HCI F2 HCI F8 HCI G7 HPK D24.2 HPV G4 HPV G5	
			24.09. 01.10.	14-16 14-16	HPH G1 HPH G1		
401-0291-00L	Mathematics I	O	6 credits	4V+2U			
401-0291-00 V	Mathematik I <i>Vorlesung im HG F7 mit Videoübertragung ins HG F5.</i>		4 hrs	Mon	08-10	HG F5 HG F7	A. Caspar
				Tue	08-10	HG F5 HG F7	
401-0291-00 U	Mathematik I <i>Groups are selected in myStudies.</i> <i>Di 14-16 für Studiengang Gesundheitswissenschaften und Technologie.</i> <i>Mi 14-16 für Studiengänge Biologie bzw. Pharmazeutische Wissenschaften.</i> <i>StudyCenter: Steht den Studierenden am Dienstag und Mittwoch ab 16 Uhr in Begleitung der Übungen zur Verfügung.</i>		2 hrs	Tue	14-16	CHN D48 ETZ E7 ETZ E8 ETZ F91 ETZ H91 HG D5.1 HG D5.3 HG E33.3 HG G26.1 ML H34.3 CHN D44 CHN D46 CHN D48 CHN G46 CLA E4 HG F26.5 IFW C31 ML J34.1 ML J34.3	A. Caspar
				Wed	14-16		

## ►► Second and Third Year Core Courses

### ►►► Examination Blocks

#### ►►►► Examination Block A

Number	Title	Type	ECTS	Hours				Lecturers
<b>376-0151-00L</b>	<b>Anatomy and Physiology I</b>	<b>O</b>	<b>5 credits</b>	<b>4V</b>				
376-0151-00 V	Anatomie und Physiologie I <i>Mi 8-10h Vorlesung im Hörsaal I24 G 55 mit Videoübertragung ins I03 G 85</i>			4 hrs	Wed	08-10	I03 G85 I24 G55	<b>D. P. Wolfer</b> , K. De Bock, R. Fiore, S. Meissner, L. Slomianka, C. Spengler, M. Willecke
					Thu	10-12	HCI G3	
<b>401-0293-00L</b>	<b>Mathematics III</b>	<b>O</b>	<b>5 credits</b>	<b>3V+2U</b>				
401-0293-00 V	Mathematik III <i>- Montags findet die Vorlesung online (via Zoom) statt. Der reservierte Raum steht den Studierenden jedoch zur Verfügung, um die Vorlesung von dort aus zu verfolgen.</i> <i>- Dienstags findet die Vorlesung in Präsenz statt.</i>			3 hrs	Mon	08-10	HG G5	<b>E. W. Farkas</b>
					Tue	13-14	HG G5	

401-0293-00 U	Mathematik III <i>Groups are selected in myStudies.</i>	O	3 credits	2V+1U	2 hrs	Tue/1 Tue/2	14-16 14-16	ETZ E9 ETZ E9 ETZ J91 ETZ J91 IFW C33 IFW C33 LFW C1 LFW C1 ETZ E9 ETZ E9 ETZ J91 ETZ J91 IFW C33 IFW C33 LFW C1 LFW C1	E. W. Farkas
---------------	------------------------------------------------------------	---	-----------	-------	-------	----------------	----------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------

401-0643-13L	Statistics II	O	3 credits	2V+1U				
401-0643-13 V	Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST) <i>Findet im HG F 1 mit Videoübertragung im HG F 3 statt.</i>			2 hrs	Wed	10-12	HG F1 HG F3	M. Kalisch
401-0643-13 U	Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST) <i>Groups are selected in myStudies. Do 9-10, Do 12-13 oder Do 13-14 für Studiengang Gesundheitswissenschaften und Technologie. Do 9-10 für Studiengang Biochemie – Chemische Biologie. Do 8-9, Do 10-11 oder Do 11-12. für Studiengang Biologie. Do 8-9 oder Do 9-10 für Studiengang Pharmazeutische Wissenschaften.</i>			1 hrs	Thu	08-09  09-10  10-11 11-12 12-13  13-14	HCI H2.1 HCI H8.1 HCI H2.1 HCI H8.1 HCI H2.1 HCI H2.1 HCI J4 HCI J7 HIT H51 HCI J4 HCI J7 HIT H51	M. Kalisch
					Fri	10-11 11-12	HIT F31.2 HIT F31.2	

#### ▶▶▶▶ Examination Block B

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0083-00L</b>	<b>Physics I</b>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>					
402-0083-00 V	Physik I			3 hrs	Wed Fri	15-16 10-12	HPH G1 HPH G1		<b>K. S. Kirch</b>
402-0083-00 U	Physik I			1 hrs	Wed	16-17	HCI D4 HCI H8.1 HCI J8 HIL C10.2 HIL D10.2 HIL F10.3 HIT F31.1 HIT F31.2 HIT H42 HIT H51 HIT J51 HIT K51 HIT K52 HPK D24.2		<b>K. S. Kirch</b>

#### ▶▶▶▶ Examination Block C

*The examination block will not be offered until Spring Semester 2022.*

#### ▶▶▶ Individual Subjects and Laboratory Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>376-0019-00L</b>	<b>Laboratory Course in Medical Technology</b>	<b>O</b>	<b>2 credits</b>	<b>2P</b>					
376-0019-00 P	Praktikum Medizintechnik <i>On Campus Balgrist. The exact lesson times/rooms can be found on Moodle</i>			2 hrs	Tue	08-12	Ex tern		<b>J. G. Snedeker, O. Lambergcy</b>
<b>376-0002-01L</b>	<b>Product Design in Medical Engineering</b> <i>Only for Health Sciences and Technology BSc, Programme Regulations 2020.</i>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>					
376-0002-01 V	Produktentwicklung in der Medizintechnik			2 hrs	Mon	10-12	HG G3		<b>S. J. Ferguson</b>
376-0002-01 U	Produktentwicklung in der Medizintechnik			2 hrs	Thu	14-16	HCI D2 HCI D6 HCI E8 HCI F8 HIL E5 HIL F10.3		<b>S. J. Ferguson</b>

#### ▶▶ Focus Courses

#### ▶▶▶ Human Movement Sciences and Sports

Number	Title	Type	ECTS	Hours					Lecturers
<b>376-0203-00L</b>	<b>Movement and Sport Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					

376-0203-00 G	Bewegungs- und Sportbiomechanik <i>Die Vorlesungen und Übungen finden im HS21 grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>  <i>Vorlesung: Fr 14-16 Übungen: Fr 16-17</i>	3 hrs	Fri	14-16 16-17	HCI J3 HCP E47.3 HIT F31.2 HIT F32 HIT H51 HIT J51 HIT J52 HIT J53 HIT K52	<b>B. Taylor</b> , R. List
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	-----	----------------	----------------------------------------------------------------------------------------------------	----------------------------

<b>376-0207-00L</b>	<b>Exercise Physiology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
376-0207-00 G	Sportphysiologie <i>Der Hörsaal I35-F-32 steht zur Verfügung, um der Vorlesung via zoom auf dem eigenen Laptop zu folgen.</i>			3 hrs	Thu	14-17	I17 M5 I35 F32		<b>C. Spengler</b> , R. M. Rossi

### ►►► Medical Technology

Number	Title	Type	ECTS	Hours				Lecturers
227-0386-00L	Biomedical Engineering	W	4 credits	3G				
227-0386-00 G	Biomedical Engineering **together with University of Zurich**			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1	J. Vörös, S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong

<b>376-0021-00L</b>	<b>Materials and Mechanics in Medicine</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
376-0021-00 G	Materials and Mechanics in Medicine <i>Groups are selected in myStudies. lecture: Di 14-16h exercises: Di 16-17h, start at the second week of the semester.</i>  <i>The lecturers will communicate the exact lesson times of the ONLINE-exercises.</i>			3 hrs	Tue	14-16 16-17	HG F1 CHN G42 ETZ E8 HG D7.1 ML H41.1 ON LINE	<b>M. Zenobi-Wong</b> , J. G. Snedeker	

376-1714-00L	Biocompatible Materials	W	4 credits	3V				
376-1714-00 V	Biocompatible Materials Vorlesung 9-11h Uebungen/Gruppenarbeiten 11-12h			3 hrs	Fri	09-12	HG G3	K. Maniura, M. Rottmar, M. Zenobi-Wong

### ►►► Molecular Health Sciences

Number	Title	Type	ECTS	Hours					Lecturers
551-0309-00L	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	W	6 credits	4V					
551-0309-00 V	Concepts in Modern Genetics <b>**gemeinsam mit der Universität Zürich**</b>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	Y. Barral, D. Bopp, A. Hajnal, O. Voinnet	

551-0317-00L	Immunology I	W	3 credits	2V					
551-0317-00 V	Immunology I			2 hrs	Tue	08-10	HG G3		M. Kopf, A. Oxenius

### ►►► Neurosciences

Number	Title	Type	ECTS	Hours					Lecturers
376-1305-00L	<b>Development of the Nervous System (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO344</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	3 credits	2V					
376-1305-00 V	Development of the Nervous System (University of Zurich) <b>**together with University of Zurich**</b>  <i>One hour of self-study per week is included in the course.</i>			2 hrs	Mon	08-10	I15 G40		University lecturers

<b>376-1305-01L</b>	<b>Neural Systems for Sensory, Motor and Higher Brain Functions</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO343 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-</a></i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
---------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------	------------------	-----------	--	--	--	--	--

<b>students-university-of-zurich.html</b>						
376-1305-01 V	Neural Systems for Sensory, Motor and Higher Brain Functions <b>**together with University of Zurich**</b>	2 hrs	Mon 20.09.	10-12 10-12	I15 G40 I15 G40	<b>G. Schratt</b> , J. Bohacek, L. Filli, W. von der Behrens, further lecturers
<i>BE AWARE: Lecture starts already on 20.09.2021.</i>						
<i>4 hours of self-study (preparation and post-study) per week are included in the course.</i>						

551-0309-00L	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	W	6 credits	4V			
551-0309-00 V	Concepts in Modern Genetics <b>**gemeinsam mit der Universität Zürich**</b>		4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet

## ► Bachelor Studies (Programme Regulations 2017)

### ►► Second Year Compulsary Courses

#### ►►► Examination Blocks

#### ►►►► Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>376-0002-00L</b>	<b>Product Design in Medical Engineering</b> <i>Only for Health Sciences and Technology BSc, Programme Regulations 2017.</i>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
376-0002-01 V	Produktentwicklung in der Medizintechnik			2 hrs	Mon	10-12	HG G3	<b>S. J. Ferguson</b>
376-0002-01 U	Produktentwicklung in der Medizintechnik			2 hrs	Thu	14-16	HCI D2 HCI D6 HCI E8 HCI F8 HIL E5 HIL F10.3	<b>S. J. Ferguson</b>
<b>551-0103-00L</b>	<b>Fundamentals of Biology II: Cell Biology</b> <i>Only for - Biologie BSc (Programme Regulations 2013), - Pharmaceutical Sciences BSc (Programme Regulations 2013) - Health Sciences and Technology BSc (Programme Regulations 2017)</i>	<b>O</b>	<b>5 credits</b>	<b>5V</b>				
551-0103-00 V	Grundlagen der Biologie II: Zellbiologie <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich. Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.</i>			5 hrs				
<i>Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.</i>								<b>S. Werner</b> , Y. Barral, U. Kutay, G. Schertler, U. Suter, I. Zemp

#### ►►►► Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>376-0151-00L</b>	<b>Anatomy and Physiology I</b>	<b>O</b>	<b>5 credits</b>	<b>4V</b>				
376-0151-00 V	Anatomie und Physiologie I <i>Mi 8-10h Vorlesung im Hörsaal I24 G 55 mit Videoübertragung ins I03 G 85</i>			4 hrs	Wed Thu	08-10 10-12	I03 G85 I24 G55 HCI G3	<b>D. P. Wolfer</b> , K. De Bock, R. Fiore, S. Meissner, L. Slomianka, C. Spengler, M. Willecke
<b>401-0293-00L</b>	<b>Mathematics III</b>	<b>O</b>	<b>5 credits</b>	<b>3V+2U</b>				
401-0293-00 V	Mathematik III <i>- Montags findet die Vorlesung online (via Zoom) statt. Der reservierte Raum steht den Studierenden jedoch zur Verfügung, um die Vorlesung von dort aus zu verfolgen. - Dienstags findet die Vorlesung in Präsenz statt.</i>			3 hrs	Mon Tue	08-10 13-14	HG G5 HG G5	<b>E. W. Farkas</b>

401-0293-00 U	Mathematik III <i>Groups are selected in myStudies.</i>	O	3 credits	2V+1U	2 hrs	Tue/1 Tue/2  Tue/1 Tue/2 Tue/1  Tue/2  Tue/1  Tue/2 Tue/1 Tue/2 Tue/1 Tue/2	14-16 14-16  14-16 14-16 14-16  14-16  16-18 16-18  16-18 16-18 16-18 16-18 16-18	ETZ E9 ETZ E9 ETZ J91 ETZ J91 IFW C33 IFW C33 LFW C1 LFW C1 ETZ E9 ETZ E9 ETZ J91 ETZ J91 IFW C33 IFW C33 LFW C1 LFW C1	E. W. Farkas
---------------	------------------------------------------------------------	---	-----------	-------	-------	--------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------

401-0643-13L	Statistics II	O	3 credits	2V+1U				
401-0643-13 V	Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST) <i>Findet im HG F 1 mit Videoübertragung im HG F 3 statt.</i>			2 hrs	Wed	10-12	HG F1 HG F3	M. Kalisch
401-0643-13 U	Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST) <i>Groups are selected in myStudies. Do 9-10, Do 12-13 oder Do 13-14 für Studiengang Gesundheitswissenschaften und Technologie. Do 9-10 für Studiengang Biochemie – Chemische Biologie. Do 8-9, Do 10-11 oder Do 11-12. für Studiengang Biologie. Do 8-9 oder Do 9-10 für Studiengang Pharmazeutische Wissenschaften.</i>			1 hrs	Thu	08-09	HCI H2.1 HCI H8.1	M. Kalisch
						09-10	HCI H2.1 HCI H8.1	
						10-11	HCI H2.1	
						11-12	HCI H2.1	
						12-13	HCI J4 HCI J7 HIT H51	
						13-14	HCI J4 HCI J7 HIT H51	
					Fri	10-11	HIT F31.2	
						11-12	HIT F31.2	

### ▶▶▶▶ Examination Block 3

Number	Title	Type	ECTS	Hours					Lecturers
<b>376-0007-00L</b>	<b>Neuroanatomy and Neurophysiology</b> <i>Only for Health Sciences and Technology BSc. Offered in the spring semester from HS21/FS22 onwards.</i>	<b>O</b>	<b>2 credits</b>	<b>2V</b>					
376-0007-00 V	Neuroanatomie und Neurophysiologie <i>Does not take place this semester. Wird ab FS22 im Frühlingssemester angeboten.</i>			2 hrs					<b>N. Wenderoth, D. P. Wolfer</b>
<b>402-0083-00L</b>	<b>Physics I</b>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>					
402-0083-00 V	Physik I			3 hrs	Wed Fri	15-16 10-12	HPH G1 HPH G1		<b>K. S. Kirch</b>
402-0083-00 U	Physik I			1 hrs	Wed	16-17	HCI D4 HCI H8.1 HCI J8 HIL C10.2 HIL D10.2 HIL F10.3 HIT F31.1 HIT F31.2 HIT H42 HIT H51 HIT J51 HIT K51 HIT K52 HPK D24.2		<b>K. S. Kirch</b>

### ▶▶ Focus Courses

#### ▶▶▶ Human Movement Science and Sport

Number	Title	Type	ECTS	Hours					Lecturers
<b>376-0203-00L</b>	<b>Movement and Sport Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
376-0203-00 G	Bewegungs- und Sportbiomechanik <i>Die Vorlesungen und Übungen finden im HS21 grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.  Vorlesung: Fr 14-16 Übungen: Fr 16-17</i>			3 hrs	Fri	14-16 16-17	HCI J3 HCP E47.3 HIT F31.2 HIT F32 HIT H51 HIT J51 HIT J52 HIT J53 HIT K52		<b>B. Taylor, R. List</b>
<b>376-0207-00L</b>	<b>Exercise Physiology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
376-0207-00 G	Sportphysiologie <i>Der Hörsaal I35-F-32 steht zur Verfügung, um der Vorlesung via zoom auf dem eigenen Laptop zu folgen.</i>			3 hrs	Thu	14-17	I17 M5 I35 F32		<b>C. Spengler, R. M. Rossi</b>

#### ▶▶▶ Molecular Health Sciences

Number	Title	Type	ECTS	Hours				Lecturers
551-0309-00L	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	W	6 credits	4V				
551-0309-00 V	Concepts in Modern Genetics <i>**gemeinsam mit der Universität Zürich**</i>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	Y. Barral, D. Bopp, A. Hajnal, O. Voinnet
551-0317-00L	<b>Immunology I</b>	W	3 credits	2V				
551-0317-00 V	Immunology I			2 hrs	Tue	08-10	HG G3	M. Kopf, A. Oxenius
►►► Medical Technology								
Number	Title	Type	ECTS	Hours				Lecturers
227-0386-00L	<b>Biomedical Engineering</b>	W	4 credits	3G				
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1	J. Vörös, S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong
376-0021-00L	<b>Materials and Mechanics in Medicine</b>	W	4 credits	3G				
376-0021-00 G	Materials and Mechanics in Medicine <i>Groups are selected in myStudies. lecture: Di 14-16h exercises: Di 16-17h, start at the secound week af the semester.</i>  <i>The lecturers will communicate the exact lesson times of the ONLINE-exercises.</i>			3 hrs	Tue	14-16 16-17	HG F1 CHN G42 ETZ E8 HG D7.1 ML H41.1 ON LINE	M. Zenobi-Wong, J. G. Snedeker
376-1714-00L	<b>Biocompatible Materials</b>	W	4 credits	3V				
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Uebungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3	K. Maniura, M. Rottmar, M. Zenobi-Wong
►►► Neurosciences								
Number	Title	Type	ECTS	Hours				Lecturers
376-1305-00L	<b>Development of the Nervous System (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO344</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/appliation/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/appliation/deadlines.html</a></i>	W	3 credits	2V				
376-1305-00 V	Development of the Nervous System (University of Zurich) <i>**together with University of Zurich**</i>  <i>One hour of self-study per week is included in the course.</i>			2 hrs	Mon	08-10	I15 G40	University lecturers
376-1305-01L	<b>Neural Systems for Sensory, Motor and Higher Brain Functions</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO343 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	W	3 credits	2V				
376-1305-01 V	Neural Systems for Sensory, Motor and Higher Brain Functions <i>**together with University of Zurich**</i>  <i>BE AWARE: Lecture starts already on 20.09.2021.</i>  <i>4 hours of self-study (preparation and post-study) per week are included in the course.</i>			2 hrs	Mon 20.09.	10-12 10-12	I15 G40 I15 G40	G. Schratt, J. Bohacek, L. Filli, W. von der Behrens, further lecturers
551-0309-00L	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>  <i>Please mind the ETH enrolment deadlines</i>	W	6 credits	4V				

for UZH students:  
<https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html>

551-0309-00 V Concepts in Modern Genetics 4 hrs Mon 12-14 HG E5 Y. Barral, D. Bopp, A. Hajnal, O. Voinnet  
 \*\*gemeinsam mit der Universität Zürich\*\* Tue 08-10 I15 G60

## ► Electives

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0575-01L</b>	<b>Signals and Systems</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0575-01 V	Signals and Systems <i>The lecture will start in the 2nd week of the Semester.</i>			2 hrs	Thu	14-16	ETF C1	<b>A. Carron</b>
151-0575-01 U	Signals and Systems <i>The exercise will start in the 3rd week of the Semester.</i>			2 hrs	Thu	16-18	ETF C1	<b>A. Carron</b>
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60	<b>B. Nelson</b> , N. Shamsudhin
<b>151-0917-00L</b>	<b>Mass Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0917-00 V	Mass Transfer			2 hrs	Wed	10-12	ML H44	<b>S. E. Pratsinis</b> , V. Mavrantzas, C.-J. Shih
151-0917-00 U	Mass Transfer <i>The exercise will start in the 2nd week of the Semester.</i>			2 hrs	Tue	14-16	HG E1.1	<b>S. E. Pratsinis</b> , V. Mavrantzas, C.-J. Shih
<b>227-0045-00L</b>	<b>Signals and Systems I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
227-0045-00 V	Signal- und Systemtheorie I			2 hrs	Thu	08-10	HG F1	<b>H. Bölskei</b>
227-0045-00 U	Signal- und Systemtheorie I			2 hrs	Tue	16-18	ETZ E6 HG E22 LEE C104 LEE C114 LFV E41	<b>H. Bölskei</b>
<b>327-0113-00L</b>	<b>Foundations of Materials Science I</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
327-0113-00 G	Materialwissenschaftliche Grundlagen I			2 hrs	Wed	12-14	HIL E6	<b>L. Isa</b>
<b>376-0130-00L</b>	<b>Laboratory Course in Exercise Physiology</b>	<b>W</b>	<b>3 credits</b>	<b>4P</b>				
	<i>Number of participants limited to 48.</i>							
	<i>HST: Possible from the 5th semester on.</i>							
376-0130-00 P	Praktikum Sportphysiologie *** BITTE BEACHTEN ***: Aufgrund der Unsicherheiten bezüglich Pandemie-Lage wird evtl. die maximale Belegung des Praktikums kurzfristig reduziert. Die Zulassung zum Praktikum erfolgt in diesem Fall entsprechend des Belegungstermins.  Die Veranstaltung findet wöchentlich statt, in- und ausserhalb Zürichs. Details zum Praktikumsablauf werden in der Woche vor Praktikumsbeginn schriftlich bekanntgegeben. Der Besuch aller Praktikumstage ist obligatorisch. Für absehbare, zwingende Abwesenheiten ist bis spätestens 4 Wochen vor Semesterbeginn ein schriftliches Gesuch einzureichen.			4 hrs	Thu	08-12	I17 M5	<b>C. Spengler</b>
<b>376-1033-00L</b>	<b>History of Sports</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
376-1033-00 V	Sportgeschichte			2 hrs	Thu	16-18	HG E33.3	<b>M. Gisler</b>
<b>376-1107-00L</b>	<b>Sport Pedagogy</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
376-1107-00 V	Sportpädagogik <i>Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Thu	10-12	NO C44	<b>C. Herrmann</b>
<b>376-1117-00L</b>	<b>Sport Psychology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
376-1117-00 V	Sportpsychologie <i>Exkursion: Sa 18.12.2021 Skispringen Weltcup Engelberg (Die Termine 12.10./19.10./16.11. entfallen)</i>			2 hrs	Tue	14-16	HG E1.2	<b>H. Gubelmann</b>
<b>376-1121-00L</b>	<b>Socio-Scientific Health Research: A Thematic Insight and Overview</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
376-1121-00 G	Sozialwissenschaftliche Gesundheitsforschung: Ein thematischer Ein- und Überblick			2 hrs	Thu	10-12	LFW C11	<b>O. Hämmig</b> , R. Brauchli, S. T. Güntert
<b>376-1127-00L</b>	<b>Sociology of Sport</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
376-1127-00 V	Sportsoziologie			2 hrs	Thu	08-10	NO C6	<b>R. Bürgi</b> , M. Lamprecht
<b>376-1581-00L</b>	<b>Cancer: Fundamentals, Origin and Therapy</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
376-1581-00 G	Krebs: Grundlagen, Ursachen und Therapie			2 hrs	Tue	10-12	HG D7.2	<b>H. Nägeli</b>
<b>376-1661-00L</b>	<b>Ethics of Life Sciences and Biotechnology</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-1661-00 V	Ethics of Life Sciences and Biotechnology <i>2-4 hours weekly preparation required.</i>			2 hrs	Mon	16-18	LEE E101	<b>A. Blasimme</b> , E. Vayena



<b>376-1716-00L</b>	<b>Basics of Exercise Therapy</b> <i>Number of participants limited to 30.</i>  <i>Possible from the 5th semester on.</i> <i>Requirement: 376-1715-00L "Introduction to Exercise Therapy" passed.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>						
376-1716-00 V	Bewegungs- und Sporttherapie II			2 hrs	Wed/2w	14-18	CHN G42	<b>K. Marschall</b>		
<b>376-1717-00L</b>	<b>Applied Basics in Sports and Exercise Therapy</b> <i>Number of participants limited to 30.</i>  <i>Possible from the 5th semester on.</i> <i>Requirement: 376-1715-00L "Introduction to Exercise Therapy" passed.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>						
376-1717-00 V	Bewegungs- und Sporttherapie III <i>Zusätzlich findet ein externer Blocktag zu einem noch zu definierenden Zeitpunkt statt.</i>			2 hrs	Wed/2w	14-18	CHN G42	<b>B. Spörri Kälin, M. Gwerder</b>		
<b>376-1722-00L</b>	<b>Spinal Cord Injury and Exercise</b> <i>Prerequisite: Anatomy and Physiology</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>						
376-1722-00 V	Paraplegie und Sport			2 hrs	Tue	14-16	HG D3.2	<b>C. Perret</b>		
<b>529-0731-00L</b>	<b>Nucleic Acids and Carbohydrates</b> <i>Note for BSc Biology students: Only one of the two concept courses 529-0731-00 Nucleic Acids and Carbohydrates (autumn semester) or 529-0732-00 Proteins and Lipids (spring semester) can be counted for the Bachelor's degree.</i>	<b>W</b>	<b>6 credits</b>	<b>3G</b>						
529-0731-00 G	Nucleic Acids and Carbohydrates <i>Lecture 2 hours on Tue 9:45-11:30.</i> <i>Exercises: 1 hour according to agreement, presumably Tue 7:45-8:30 or 8:45-9:30. Exercises will start in the second week of semester.</i>			3 hrs	Tue	08-09 09-10 10-12	HCI D2 HCI D2 HCI J3	<b>D. Hilvert, P. A. Kast, S. J. Sturla, H. Wennemers</b>		
<b>535-0230-00L</b>	<b>Medicinal Chemistry I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>						
535-0230-00 V	Medizinische Chemie I			2 hrs	Mon 27.09. 04.10.	10-12 10-12 10-12	HCI J3 HIL E8 HIL E8	<b>J. Hall</b>		
<b>535-0521-00L</b>	<b>Pharmacology and Toxicology I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>						
535-0521-00 V	Pharmakologie und Toxikologie I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	08-10	HCI J7	<b>U. Quitterer, J. Abd Alla</b>		
<b>535-0810-00L</b>	<b>Gene Technology</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>						
535-0810-00 G	Gene Technology			2 hrs	Wed	10-12	HCI J6	<b>K. Eyer, J. Scheuermann</b>		
<b>535-0830-00L</b>	<b>Pharmaceutical Immunology</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>						
535-0830-00 G	Pharmaceutical Immunology			2 hrs	Wed	08-10	HCI J6	<b>C. Halin Winter, V. Collado Diaz</b>		
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>						
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3	<b>U. Kutay, G. Neurohr, M. Peter, K. Weis, I. Zemp</b>		
<b>752-2120-00L</b>	<b>Consumer Behaviour I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>						
752-2120-00 V	Consumer Behaviour I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	14-16	HG G3	<b>M. Siegrist, A. Bearth, A. Berthold</b>		
<b>752-4005-00L</b>	<b>Food Microbiology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>						
752-4005-00 V	Lebensmittel-Mikrobiologie I			2 hrs	Tue	10-12	HG E1.1	<b>M. Loessner</b>		
<b>752-6001-00L</b>	<b>Introduction to Nutritional Science</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>						
752-6001-00 V	Introduction to Nutritional Science <i>Course is taught in English (M. Zimmermann) and German (Ch. Wolfrum)</i>			2 hrs	Fri	08-10	HG F7	<b>M. B. Zimmermann, C. Wolfrum</b>		
<b>752-6301-00L</b>	<b>Selected Topics in Physiology Related to Nutrition</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>						
752-6301-00 V	Selected Topics in Physiology Related to Nutrition			2 hrs	Thu	10-12	CAB G51	<b>F. von Meyenn</b>		
<b>752-6403-00L</b>	<b>Nutrition and Performance</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>						
752-6403-00 V	Nutrition and Performance			2 hrs	Thu	14-16	ML E12	<b>S. Mettler, M. B. Zimmermann</b>		

## ► GESS Science in Perspective

### ►► Science in Perspective

*see Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended Science in Perspective  
(Type B) for D-HEST.*

### ►► Language Courses

## ► Sport Practical

*Sport Practical Basic Education*

*Sport Practical Advanced Education*

*Assessments*

## Health Sciences and Technology Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Health Sciences and Technology TC

More information at: <https://www.ethz.ch/de/studium/didaktische-ausbildung/studienangebot-zulassung/didaktik-zertifikat.html>

## ► Educational Science

Number	Title	Type	ECTS	Hours					Lecturers
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V					
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1		E. Stern
851-0240-22L	<b>Coping with Psychosocial Demands of Teaching (EW4 DZ)</b> <i>Number of participants limited to 20.</i>  <i>The successful participation in EW1 ("Human Learning") and EW2 ("Designing Learning Environments for School") is recommended, but not a mandatory prerequisite.</i>	W	2 credits	3S					
851-0240-22 S	Bewältigung psychosozialer Anforderungen im Lehrberuf (EW4 DZ) ■			3 hrs	Tue	09-12	HG E33.1 HG F26.5 HG G26.1		U. Markwalder, S. Maurer, S. Peteranderl
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S					
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1		R. Schumacher
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S					
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40		E. Stern
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S					
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1		P. Edelsbrunner, T. Braas, C. M. Thurn
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S					
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114		M. Berkowitz Biran, T. Braas, C. M. Thurn

## ► Subject Didactics and Professional Training

Number	Title	Type	ECTS	Hours	Lecturers
376-8001-00L	<b>Didactics of Health Sciences and Technology I</b> <i>Only for Health Sciences and Technology TC students.</i>  <i>Enrolment at the earliest possible with the lecture 851-0240-00 "Human Learning"</i>	O	4 credits	3G	
376-8001-00 G	Fachdidaktik Gesundheitswissenschaften und Technologie I ■			3 hrs Thu 13-16 HIT F31.1	S. Maurer, S. Sinistaj
376-8008-00L	<b>Teaching Internship Including Examination Lessons Health Sciences and Technologie</b> <i>Only for Health Sciences and Technology TC students.</i>  <i>The teaching internship can just be visited if all other courses of TC are completed. Repetition of the teaching internship is excluded even if the examination lessons are to be repeated.</i>	O	6 credits	13P	
376-8008-00 P	Unterrichtspraktikum mit Prüfungslektionen Gesundheitswissenschaften und Technologie ■			180s hrs by appt.	S. Maurer, S. Sinistaj

## ► Further Subject Didactics

*For students enrolled from HS 2019: The courses offered here are credited under the category «Subject Didactics and Professional Training».*

Number	Title	Type	ECTS	Hours	Lecturers
376-8011-00L	<b>Mentored Work Subject Didactics Health Sciences and Technologie</b> <i>Only for Health Sciences and Technology TC students.</i>	O	2 credits	4A	
376-8011-00 A	Mentorierte Arbeit Fachdidaktik Gesundheitswissenschaften und Technologie ■			60s hrs by appt.	S. Maurer, S. Sinistaj

### Health Sciences and Technology TC - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Health Sciences and Technology Master

## ► Major in Human Movement Science and Sport

### ►► Compulsory Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>376-0300-00L</b>	<b>Translational Science for Health and Medicine</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					
376-0300-00 G	Translational Science for Health and Medicine ■			2 hrs	Fri	10-12	IFW A36		<b>J. Goldhahn</b> , C. Wolfrum
<b>376-0302-01L</b>	<b>GCP Basic Course (Modules 1 and 2)</b> <i>Only for Health Sciences and Technology MSc.</i>	<b>O</b>	<b>1 credit</b>	<b>1G</b>					
376-0302-01 G	GCP Basic Course (Modules 1 and 2) <i>Courses for German speaking students: Please select courses from: <a href="http://www.ctc-zkf.usz.ch/forschung/gcp-kurse/seiten/gcp-basiskurse.aspx">http://www.ctc-zkf.usz.ch/forschung/gcp-kurse/seiten/gcp-basiskurse.aspx</a> New dates are published quarterly.</i>  <i>For accreditation of TRREE online modules (1, 2.1, 3.1, 3.2, CH-Supplement) certificates (CHF 50.00) have to be handed in to claudia.fila@usz.ch.</i>  <i>Course for English speaking students only: Registration required: Email: roland.mueller@hest.ethz.ch</i>  <i>Dates 2022 for English speaking students: GCP-Module 1: 2.6.2022, Module 2: 9.6.2022</i>			16s hrs					<b>G. Senti</b>

### ►► Electives

#### ►►► Electives Courses I

Number	Title	Type	ECTS	Hours					Lecturers
<b>376-0221-00L</b>	<b>Methods and Concepts in Human Systems Neuroscience and Motor Control</b> <i>Number of participants limited to 12</i>	<b>W</b>	<b>4 credits</b>	<b>3P</b>					
376-0221-00 P	Methods and Concepts in Human Systems Neuroscience and Motor Control ■			3 hrs	Mon	10-13	HPS D29		<b>M. Schrafl-Altermatt</b>
<b>376-0223-00L</b>	<b>Advanced Topics in Exercise Physiology</b> <i>Number of participants limited to 18.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>					
376-0223-00 S	Advanced Topics in Exercise Physiology ■			2 hrs	Mon	08-10	I17 M5		<b>C. Spengler</b> , G. D'Hulst, F. Gabe Beltrami
<b>376-0225-00L</b>	<b>Physical Activities and Health</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
376-0225-00 V	Physical Activities and Health			2 hrs	Fri	14-16	HIL E6		<b>R. Knols</b> , E. de Bruin, further speakers
<b>376-1651-00L</b>	<b>Clinical and Movement Biomechanics</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
376-1651-00 G	Clinical and Movement Biomechanics			3 hrs	Wed	14-17	HIL E9		<b>N. Singh</b> , R. List, P. Schütz
<b>752-6101-00L</b>	<b>Dietary Etiologies of Chronic Disease</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-6101-00 V	Dietary Etiologies of Chronic Disease			2 hrs	Thu	08-10	CAB G11		<b>M. B. Zimmermann</b>

#### ►►► Elective Courses II

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>			5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7		<b>S. Kozzerke</b> , K. P. Prüssmann
<b>227-0386-00L</b>	<b>Biomedical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1		<b>J. Vörös</b> , S. J. Ferguson, S. Kozzerke, M. P. Wolf, M. Zenobi-Wong
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1		<b>L. Van Gool</b> , E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2		<b>L. Van Gool</b> , E. Konukoglu, F. Yu
<b>327-2125-00L</b>	<b>Microscopy Training SEM I - Introduction to SEM</b> <i>The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.</i>  <i>For PhD students, postdocs and others, a fee will be charged (<a href="http://www.scopem.ethz.ch/education/MTP.html">http://www.scopem.ethz.ch/education/MTP.html</a>).</i>	<b>W</b>	<b>2 credits</b>	<b>3P</b>					

All applicants must additionally register on this form: (link will follow)  
The selected applicants will be contacted and asked for confirmation a few weeks before the course date.

327-2125-00 P	Microscopy Training SEM I - Introduction to SEM ■ <i>This block course will take place during 5 full days (9am-5pm) on October 25.-29., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.</i>	35s hrs	25.10. 09-12 26.10. 09-12 27.10. 09-12 29.10. 13-16	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1	<b>P. Zeng</b> , A. G. Bittermann, S. Gerstl, L. Grafulha Morales, K. Kunze, J. Reuteler
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------	--------------------------------------------------------------	--------------------------------------------------	------------------------------------------------------------------------------------------------

The repetition (if needed) of this course will take place on Jan 24.-28., 2022.

<b>327-2126-00L</b>	<b>Microscopy Training TEM I - Introduction to TEM</b> <i>The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.</i>	<b>W</b>	<b>2 credits</b>	<b>3P</b>				
---------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------	------------------	-----------	--	--	--	--

For PhD students, postdocs and others, a fee will be charged  
(<http://www.scopem.ethz.ch/education/MTP.html>).

All applicants must additionally register on this form: (link will follow)  
The selected applicants will be contacted and asked for confirmation a few weeks before the course date.

327-2126-00 P	Microscopy Training TEM I - Introduction to TEM <i>This block course will take place during 5 full days (9am-5pm) on November 1.-5., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.</i>	35s hrs	01.11. 09-12 02.11. 09-12 03.11. 09-12 05.11. 13-16	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1	<b>P. Zeng</b> , E. J. Barthazy Meier, A. G. Bittermann, F. Gramm, A. Sologubenko, M. Willinger
---------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------	--------------------------------------------------------------	--------------------------------------------------	-------------------------------------------------------------------------------------------------------

The repetition (if needed) of this course will take place from 29.11.-03.12.2021.

<b>363-0301-00L</b>	<b>Work Design and Organizational Change W</b>	<b>3 credits</b>	<b>2G</b>					
363-0301-00 G	Work Design and Organizational Change <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>	2 hrs	Tue	10-12	LFW C5	<b>G. Grote</b>		

<b>376-0121-00L</b>	<b>Multiscale Bone Biomechanics</b> <i>Number of participants limited to 30</i>	<b>W</b>	<b>6 credits</b>	<b>4S</b>				
376-0121-00 S	Multiscale Bone Biomechanics ■	4 hrs	Fri	12-16	HCP E47.2	<b>R. Müller</b> , X.-H. Qin		

<b>363-0790-00L</b>	<b>Technology Entrepreneurship</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
363-0790-00 V	Technology Entrepreneurship <i>The lecture takes place online via (livestreaming or) zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Tue	18-20	HG E5	<b>F. Hacklin</b>		

<b>376-0130-00L</b>	<b>Laboratory Course in Exercise Physiology</b> <i>Number of participants limited to 48.</i>	<b>W</b>	<b>3 credits</b>	<b>4P</b>				
---------------------	-------------------------------------------------------------------------------------------------	----------	------------------	-----------	--	--	--	--

HST: Possible from the 5th semester on.

376-0130-00 P	Praktikum Sportphysiologie *** BITTE BEACHTEN ***: Aufgrund der Unsicherheiten bezüglich Pandemie-Lage wird evtl. die maximale Belegung des Praktikums kurzfristig reduziert. Die Zulassung zum Praktikum erfolgt in diesem Fall entsprechend des Belegungstermins.	4 hrs	Thu	08-12	I17 M5	<b>C. Spengler</b>		
---------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	-----	-------	--------	--------------------	--	--

Die Veranstaltung findet wöchentlich statt, in- und ausserhalb Zürichs.  
Details zum Praktikumsablauf werden in der Woche vor Praktikumsbeginn schriftlich bekanntgegeben.  
Der Besuch aller Praktikumstage ist obligatorisch.  
Für absehbare, zwingende Abwesenheiten ist bis spätestens 4 Wochen vor Semesterbeginn ein schriftliches Gesuch einzureichen.

<b>376-0203-00L</b>	<b>Movement and Sport Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
376-0203-00 G	Bewegungs- und Sportbiomechanik <i>Die Vorlesungen und Übungen finden im HS21 grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>	3 hrs	Fri	14-16 16-17	HCI J3 HCP E47.3 HIT F31.2 HIT F32 HIT H51 HIT J51 HIT J52 HIT J53 HIT K52	<b>B. Taylor</b> , R. List		
	<i>Vorlesung: Fr 14-16 Übungen: Fr 16-17</i>							

<b>376-0207-00L</b>	<b>Exercise Physiology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
---------------------	----------------------------	----------	------------------	-----------	--	--	--	--

376-0207-00 G	Sportphysiologie <i>Der Hörsaal I35-F-32 steht zur Verfügung, um der Vorlesung via zoom auf dem eigenen Laptop zu folgen.</i>		3 hrs	Thu	14-17	I17 M5 I35 F32	<b>C. Spengler</b> , R. M. Rossi
<b>376-0208-00L</b>	<b>Molecular and Cellular Biology of Exercise and Muscle Regeneration - Practical Aspects</b> <i>Prerequisites: Advanced Physiology and Pathophysiology (376-0008-00L) Laboratory Course in Molecular Biology (376-0006-02L)</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>			
376-0208-00 G	Molecular and Cellular Biology of Exercise and Muscle Regeneration - Practical Aspects		2 hrs	Wed/2	13-17	SLA B91	<b>O. Bar-Nur</b> , <b>K. De Bock</b>
<b>376-1033-00L</b>	<b>History of Sports</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
376-1033-00 V	Sportgeschichte		2 hrs	Thu	16-18	HG E33.3	<b>M. Gisler</b>
<b>376-1107-00L</b>	<b>Sport Pedagogy</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
376-1107-00 V	Sportpädagogik <i>Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>		2 hrs	Thu	10-12	NO C44	<b>C. Herrmann</b>
<b>376-1127-00L</b>	<b>Sociology of Sport</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
376-1127-00 V	Sportsoziologie		2 hrs	Thu	08-10	NO C6	<b>R. Bürgi</b> , M. Lamprecht
<b>376-1117-00L</b>	<b>Sport Psychology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
376-1117-00 V	Sportpsychologie <i>Exkursion: Sa 18.12.2021 Skispringen Weltcup Engelberg (Die Termine 12.10./19.10./16.11. entfallen)</i>		2 hrs	Tue	14-16	HG E1.2	<b>H. Gubelmann</b>
<b>376-1151-00L</b>	<b>Translation of Basic Research Findings from Genetics and Molecular Mechanisms of Aging</b> <i>Number of participants limited to 30.</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
376-1151-00 V	Translation of Basic Research Findings from Genetics and Molecular Mechanisms of Aging <i>Does not take place this semester. Diese Lehrveranstaltung wird nicht mehr angeboten.</i>		2 hrs				to be announced
<b>376-1177-00L</b>	<b>Human Factors I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
376-1177-00 V	Human Factors I		2 hrs	Tue	14-16	HG G3	<b>M. Menozzi Jäckli</b> , R. Huang, M. Siegrist
<b>376-1179-00L</b>	<b>Applications of Cybernetics in Ergonomics</b>	<b>W</b>	<b>1 credit</b>	<b>1U</b>			
376-1179-00 U	Applications of Cybernetics in Ergonomics		1 hrs	Wed/2w	14-16	HG E21	<b>M. Menozzi Jäckli</b> , Y.-Y. Hedinger Huang, R. Huang
<b>376-1219-00L</b>	<b>Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
376-1219-00 V	Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions		2 hrs	Tue	08-10	CAB G11	<b>R. Riener</b> , O. Lambercy
<b>376-1353-00L</b>	<b>Nanostructured Materials Safety</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>			
376-1353-00 V	Nanostructured Materials Safety		1 hrs	Fri/1	12-14	CHN F46	<b>P. Wick</b>
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>			
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h</i>		3 hrs	Fri	09-12	HG G3	<b>K. Maniura</b> , M. Rottmar, M. Zenobi-Wong
<b>376-1720-00L</b>	<b>Application of MATLAB in the Human Movement Sciences</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>			
376-1720-00 G	Application of MATLAB in the Human Movement Sciences <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Further information is available on Moodle.</i>		2 hrs	Tue	10-12	HG D5.2	<b>R. van de Langenberg</b>
<b>376-1722-00L</b>	<b>Spinal Cord Injury and Exercise</b> <i>Prerequisite: Anatomy and Physiology</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
376-1722-00 V	Paraplegie und Sport		2 hrs	Tue	14-16	HG D3.2	<b>C. Perret</b>
<b>376-1723-00L</b>	<b>Big Data Analysis in Biomedical Research</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>			
376-1723-00 V	Big Data Analysis in Biomedical Research ■		2 hrs	Fri	08-10	ETZ F91	<b>E. Araldi</b> , M. Ristow
376-1723-00 U	Big Data Analysis in Biomedical Research ■		2 hrs	Wed	16-18 24.09. 10-14	ETZ F91 ETZ F91	<b>E. Araldi</b> , M. Ristow
<b>376-1974-00L</b>	<b>Colloquium in Biomechanics</b>	<b>W</b>	<b>2 credits</b>	<b>2K</b>			
376-1974-00 K	Colloquium in Biomechanics <i>ONLINE: This course will take place online. Reserved rooms will remain available for students to follow the seminar from there.</i>		2 hrs	Wed	08-10	HG D3.2	<b>B. Helgason</b> , S. J. Ferguson, R. Müller, J. G. Snedeker, B. Taylor, M. Zenobi-Wong
<b>376-1985-00L</b>	<b>Trauma Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>			
376-1985-00 V	Trauma Biomechanics		2 hrs	Thu	10-12	HG D7.1	<b>K.-U. Schmitt</b> , M. H. Muser
376-1985-00 U	Trauma Biomechanics		1 hrs	Thu/2w	14-16	HG E33.3	<b>K.-U. Schmitt</b> , M. H. Muser

<b>376-2017-00L</b>	<b>Biomechanics of Sports Injuries and Rehabilitation</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
376-2017-00 V	Biomechanik von Sportverletzungen und Rehabilitation			2 hrs	Mon	16-18	HG D5.2	<b>K.-U. Schmitt</b> , J. Goldhahn	
<b>376-2019-00L</b>	<b>Applied Movement Analysis</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
376-2019-00 G	Angewandte Bewegungsanalyse			2 hrs	Tue	10-12	HPS C21.3 HPS D29	<b>R. Scharpf</b> , P. Schütz	
<b>551-1153-00L</b>	<b>Systems Biology of Metabolism</b> <i>Number of participants limited to 15.</i>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-1153-00 V	Systems Biology of Metabolism			2 hrs	Mon	10-12	HPL D34	<b>U. Sauer</b> , N. Zamboni, M. Zampieri	
<b>752-3105-00L</b>	<b>Physiology Guided Food Structure and Process Design</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-3105-00 V	Physiology Guided Food Structure and Process Design <i>Irregular course. Exact dates and time are listed at 'Lehrveranstaltungen/ courses. The dates are adjusted with the course "Selected Topics in Food Technology" (752-2003-00L).</i>			2 hrs	Thu	10-12 14-16	HG E33.3 LFV E41	<b>E. J. Windhab</b> , M. Devezeaux de Lavergne, S. Michlig Gonzalez, T. Wooster	
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-6105-00 V	Epidemiology and Prevention			2 hrs	Wed	12-14	CHN C14	<b>M. Puhon</b> , R. Heusser	
<b>752-6151-00L</b>	<b>Public Health Concepts</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-6151-00 V	Public Health Concepts			2 hrs	Mon 27.09.	14-16 14-16	HG D1.1 CHN G42	<b>R. Heusser</b>	
<b>752-6403-00L</b>	<b>Nutrition and Performance</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
752-6403-00 V	Nutrition and Performance			2 hrs	Thu	14-16	ML E12	<b>S. Mettler</b> , M. B. Zimmermann	

## ► Major in Human Health, Nutrition and Environment

### ►► Compulsory Courses

Number	Title	Type	ECTS	Hours	Lecturers				
<b>701-1701-00L</b>	<b>Human Health, Nutrition and Environment: Term Paper</b> <i>Only for students of the Major Human Health, Nutrition and Environment.</i>	<b>O</b>	<b>6 credits</b>	<b>13A</b>					
701-1701-00 A	Human Health, Nutrition and Environment: Term Paper ■ <i>Permission from lecturers required for all students The introduction of the term paper course takes place on 30th Sept 2021 from 16:15 to 18:00 h. An additional compulsory input lecture takes place on 25th Nov 2021 from 16:15 to 18:00 h. Dates for oral presentation are 17th and 18th Feb 2022.  More details and locations are announced separately.</i>			180s hrs				<b>J. Nuessli Guth</b> , T. Julian, K. McNeill, M. B. Zimmermann	
<b>376-0300-00L</b>	<b>Translational Science for Health and Medicine</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					
376-0300-00 G	Translational Science for Health and Medicine ■			2 hrs	Fri	10-12	IFW A36	<b>J. Goldhahn</b> , C. Wolfrum	
<b>376-0302-01L</b>	<b>GCP Basic Course (Modules 1 and 2)</b> <i>Only for Health Sciences and Technology MSc.</i>	<b>O</b>	<b>1 credit</b>	<b>1G</b>					
376-0302-01 G	GCP Basic Course (Modules 1 and 2) <i>Courses for German speaking students: Please select courses from: <a href="http://www.ctc-zkf.usz.ch/forschung/gcp-kurse/seiten/gcp-basiskurse.aspx">http://www.ctc-zkf.usz.ch/forschung/gcp-kurse/seiten/gcp-basiskurse.aspx</a> New dates are published quarterly.  For accreditation of TRREE online modules (1, 2.1, 3.1, 3.2, CH-Supplement) certificates (CHF 50.00) have to be handed in to <a href="mailto:claudia.fila@usz.ch">claudia.fila@usz.ch</a>.  Course for English speaking students only: Registration required: Email: <a href="mailto:roland.mueller@hest.ethz.ch">roland.mueller@hest.ethz.ch</a>  Dates 2022 for English speaking students: GCP-Module 1: 2.6.2022, Module 2: 9.6.2022</i>			16s hrs				<b>G. Senti</b>	

### ►► Electives

#### ►►► Elective Courses I

Number	Title	Type	ECTS	Hours	Lecturers				
<b>401-0629-00L</b>	<b>Applied Biostatistics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
401-0629-00 G	Applied Biostatistics <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			3 hrs	Tue	13-16	CAB G51	<b>M. Tanadini</b>	
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-6105-00 V	Epidemiology and Prevention			2 hrs	Wed	12-14	CHN C14	<b>M. Puhon</b> , R. Heusser	
<b>752-6151-00L</b>	<b>Public Health Concepts</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-6151-00 V	Public Health Concepts			2 hrs	Mon 27.09.	14-16 14-16	HG D1.1 CHN G42	<b>R. Heusser</b>	



## ▶▶▶ Elective Courses II

### ▶▶▶▶ Module: Infectious Diseases

Number	Title	Type	ECTS	Hours				Lecturers	
551-0223-00L	Immunology III	W	4 credits	2V					M. Kopf, S. B. Freigang, J. Kisielow, S. R. Leibundgut, A. Oxenius, C. Schneider, R. Spörri, L. Tortola, E. Wetter Slack
551-0223-00 V	Immunology III			2 hrs	Mon	10-12	HCI H8.1		
701-0263-01L	Seminar in Evolutionary Ecology of Infectious Diseases	W	3 credits	2G					R. R. Regös, S. Bonhoeffer
701-0263-01 G	Seminar in Evolutionary Ecology of Infectious Diseases			2 hrs	Tue	16-18	CHN F42		
701-1471-00L	Ecological Parasitology Number of participants limited to 20. A minimum of 6 students is required that the course will take place.  Waiting list will be deleted on October 1st, 2021.	W	3 credits	1V+1P					J. Jokela, C. Vorburger
701-1471-00 V	Ecological Parasitology ■ The lecture takes place irregularly.			14s hrs	Tue	08-10	CHN G46		
701-1471-00 P	Ecological Parasitology ■ Daten der Veranstaltung: 05.10.; 19.10.; 09.11 Zeit: 8:15 - 12:00 Ort der Veranstaltung: EAWAG Dübendorf			12s hrs	05.10. 19.10. 09.11.	08-12 08-12 08-12	EAW -EAWAG EAW -EAWAG EAW -EAWAG		
701-1703-00L	Evolutionary Medicine for Infectious Diseases Number of participants limited to 35.  Waiting list will be deleted October 3rd, 2021.	W	3 credits	2G					A. Hall
701-1703-00 G	Evolutionary Medicine for Infectious Diseases			2 hrs	Fri	10-12	HG E41		
752-4009-00L	Molecular Biology of Foodborne Pathogens	W	3 credits	2V					M. Loessner, M. Schmelcher, M. Schuppler, E. Wetter Slack
752-4009-00 V	Molecular Biology of Foodborne Pathogens			2 hrs	Thu	10-12	HG E1.2		

### ▶▶▶▶ Module: Nutrition and Health

Number	Title	Type	ECTS	Hours				Lecturers
752-2122-00L	Food and Consumer Behaviour	W	2 credits	2V				M. Siegrist, C. Hartmann
752-2122-00 V	Food and Consumer Behaviour <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	10-12	LFW B1	
752-5103-00L	Functional Microorganisms in Foods	W	3 credits	2G				C. Lacroix, A. Geirnaert, A. Greppi
752-5103-00 G	Functional Microorganisms in Foods ■ <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG D7.1	
752-6101-00L	Dietary Etiologies of Chronic Disease	W	3 credits	2V				M. B. Zimmermann
752-6101-00 V	Dietary Etiologies of Chronic Disease			2 hrs	Thu	08-10	CAB G11	

### ▶▶▶▶ Module: Environment and Health

Number	Title	Type	ECTS	Hours				Lecturers
376-1353-00L	Nanostructured Materials Safety	W	2 credits	1V				P. Wick
376-1353-00 V	Nanostructured Materials Safety			1 hrs	Fri/1	12-14	CHN F46	
701-1341-00L	Water Resources and Drinking Water	W	3 credits	2G				S. Hug, M. Berg, F. Hammes, U. von Gunten
701-1341-00 G	Water Resources and Drinking Water <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	08-10	CAB G11	

## ▶ Major in Medical Technology

### ▶▶ Compulsory Courses

Number	Title	Type	ECTS	Hours				Lecturers
376-0300-00L	Translational Science for Health and Medicine	O	3 credits	2G				J. Goldhahn, C. Wolfrum
376-0300-00 G	Translational Science for Health and Medicine ■			2 hrs	Fri	10-12	IFW A36	
376-0302-01L	GCP Basic Course (Modules 1 and 2) Only for Health Sciences and Technology MSc.	O	1 credit	1G				

Courses for German speaking students: Please select courses from:  
<http://www.ctc-zkf.usz.ch/forschung/gcp-kurse/seiten/gcp-basiskurse.aspx>  
 New dates are published quarterly.

For accreditation of TRREE online modules (1, 2.1, 3.1, 3.2, CH-Supplement) certificates (CHF 50.00) have to be handed in to [claudia.fila@usz.ch](mailto:claudia.fila@usz.ch).

Course for English speaking students only:  
 Registration required: Email: [roland.mueller@hest.ethz.ch](mailto:roland.mueller@hest.ethz.ch)

Dates 2022 for English speaking students: GCP-Module 1: 2.6.2022, Module 2: 9.6.2022

## ►► Elective Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					<b>B. Nelson</b> , N. Shamsudhin
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60		
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					<b>S. Kozerke</b> , K. P. Prüssmann
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>			5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7		
<b>227-0386-00L</b>	<b>Biomedical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					<b>J. Vörös</b> , S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1		
<b>227-0393-10L</b>	<b>Bioelectronics and Biosensors</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					<b>J. Vörös</b> , M. F. Yanik <b>M. F. Yanik</b> , J. Vörös
227-0393-10 V	Bioelectronics and Biosensors			2 hrs	Fri	09-11	HG E1.2		
227-0393-10 U	Bioelectronics and Biosensors			2 hrs	Fri	08-09 11-12	HG E1.2 HG E1.2		
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					<b>L. Van Gool</b> , E. Konukoglu, F. Yu <b>L. Van Gool</b> , E. Konukoglu, F. Yu
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1		
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2		
<b>227-0939-00L</b>	<b>Cell Biophysics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					<b>T. Zambelli</b>
227-0939-00 G	Cell Biophysics			4 hrs	Tue Thu	16-18 16-18	HG D7.2 ML F38		
<b>227-0965-00L</b>	<b>Micro and Nano-Tomography of Biological Tissues</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					<b>M. Stampanoni</b> , F. Marone Welford
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues			3 hrs	Mon	09-12	ETZ E9		
<b>227-0969-00L</b>	<b>Methods &amp; Models for fMRI Data Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>					<b>K. Stephan</b>
227-0969-00 V	Methods & Models for fMRI Data Analysis			4 hrs	Tue	08-12	ETZ E6		
<b>327-0505-00L</b>	<b>Surfaces, Interfaces and their Applications I</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>					<b>N. Spencer</b> , M. P. Heuberger, L. Isa <b>N. Spencer</b> , M. P. Heuberger, L. Isa
327-0505-00 V	Surfaces, Interfaces and their Applications I			2 hrs	Mon	09-11	HCI J7		
327-0505-00 U	Surfaces, Interfaces and their Applications I			1 hrs	Mon	11-12	HCI J7		
<b>327-2125-00L</b>	<b>Microscopy Training SEM I - Introduction to SEM</b> <i>The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.</i>  <i>For PhD students, postdocs and others, a fee will be charged (<a href="http://www.scopem.ethz.ch/education/MTP.html">http://www.scopem.ethz.ch/education/MTP.html</a>).</i>  <i>All applicants must additionally register on this form: (link will follow) The selected applicants will be contacted and asked for confirmation a few weeks before the course date.</i>	<b>W</b>	<b>2 credits</b>	<b>3P</b>					<b>P. Zeng</b> , A. G. Bittermann, S. Gerstl, L. Grafulha Morales, K. Kunze, J. Reuteler
327-2125-00 P	Microscopy Training SEM I - Introduction to SEM ■ <i>This block course will take place during 5 full days (9am-5pm) on October 25.-29., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.</i>  <i>The repetition (if needed) of this course will take place on Jan 24.-28., 2022.</i>			35s hrs	25.10. 26.10. 27.10. 29.10.	09-12 09-12 09-12 13-16	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1		
<b>327-2126-00L</b>	<b>Microscopy Training TEM I -</b>	<b>W</b>	<b>2 credits</b>	<b>3P</b>					

### Introduction to TEM

The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.

For PhD students, postdocs and others, a fee will be charged  
(<http://www.scopem.ethz.ch/education/MTP.html>).

All applicants must additionally register on this form: (link will follow)

The selected applicants will be contacted and asked for confirmation a few weeks before the course date.

327-2126-00 P	Microscopy Training TEM I - Introduction to TEM <i>This block course will take place during 5 full days (9am-5pm) on November 1.-5., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.</i>	35s hrs	01.11. 09-12 02.11. 09-12 03.11. 09-12 05.11. 13-16	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1	<b>P. Zeng</b> , E. J. Barthazy Meier, A. G. Bittermann, F. Gramm, A. Sologubenko, M. Willinger
<i>The repetition (if needed) of this course will take place from 29.11.-03.12.2021.</i>					
<b>363-0790-00L</b>	<b>Technology Entrepreneurship</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>	
363-0790-00 V	Technology Entrepreneurship <i>The lecture takes place online via (livestreaming or) zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue 18-20 HG E5 <b>F. Hacklin</b>
<b>363-1065-00L</b>	<b>Design Thinking: Human-Centred Solutions to Real World Challenges</b>	<b>W</b>	<b>5 credits</b>	<b>5G</b>	
363-1065-00 G	Design Thinking: Human-Centred Solutions to Real World Challenges <i>Does not take place this semester. From FS22 in the spring semester.</i>			5 hrs	S. Brusoni
<b>376-0021-00L</b>	<b>Materials and Mechanics in Medicine</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>	
376-0021-00 G	Materials and Mechanics in Medicine <i>Groups are selected in myStudies. lecture: Di 14-16h exercises: Di 16-17h, start at the second week of the semester.</i>			3 hrs	Tue 14-16 16-17 HG F1 CHN G42 ETZ E8 HG D7.1 ML H41.1 ON LINE <b>M. Zenobi-Wong</b> , J. G. Snedeker
<i>The lecturers will communicate the exact lesson times of the ONLINE-exercises.</i>					
<b>376-0121-00L</b>	<b>Multiscale Bone Biomechanics</b>	<b>W</b>	<b>6 credits</b>	<b>4S</b>	
<i>Number of participants limited to 30</i>					
376-0121-00 S	Multiscale Bone Biomechanics ■			4 hrs	Fri 12-16 HCP E47.2 <b>R. Müller</b> , X.-H. Qin
<b>376-0208-00L</b>	<b>Molecular and Cellular Biology of Exercise and Muscle Regeneration - Practical Aspects</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>	
<i>Prerequisites: Advanced Physiology and Pathophysiology (376-0008-00L) Laboratory Course in Molecular Biology (376-0006-02L)</i>					
376-0208-00 G	Molecular and Cellular Biology of Exercise and Muscle Regeneration - Practical Aspects			2 hrs	Wed/2 13-17 SLA B91 <b>O. Bar-Nur</b> , <b>K. De Bock</b>
<b>376-1151-00L</b>	<b>Translation of Basic Research Findings from Genetics and Molecular Mechanisms of Aging</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>	
<i>Number of participants limited to 30.</i>					
376-1151-00 V	Translation of Basic Research Findings from Genetics and Molecular Mechanisms of Aging <i>Does not take place this semester. Diese Lehrveranstaltung wird nicht mehr angeboten.</i>			2 hrs	to be announced
<b>376-1103-00L</b>	<b>Frontiers in Nanotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>4V</b>	
376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri 10-12 14-16 HCP E47.3 HCP E47.3 <b>V. Vogel</b> , further lecturers
<b>376-1177-00L</b>	<b>Human Factors I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>	
376-1177-00 V	Human Factors I			2 hrs	Tue 14-16 HG G3 <b>M. Menozzi Jäckli</b> , R. Huang, M. Siegrist
<b>376-1179-00L</b>	<b>Applications of Cybernetics in Ergonomics</b>	<b>W</b>	<b>1 credit</b>	<b>1U</b>	
376-1179-00 U	Applications of Cybernetics in Ergonomics			1 hrs	Wed/2w 14-16 HG E21 <b>M. Menozzi Jäckli</b> , Y.-Y. Hedinger Huang, R. Huang
<b>376-1219-00L</b>	<b>Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>	
376-1219-00 V	Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions			2 hrs	Tue 08-10 CAB G11 <b>R. Riener</b> , O. Lambercy
<b>376-1351-00L</b>	<b>Micro/Nanotechnology and Microfluidics for Biomedical Applications</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>	

376-1351-00 V	Micro/Nanotechnology and Microfluidics for Biomedical Applications			2 hrs	Wed	16-18	ML H41.1	<b>E. Delamarche</b>
<b>376-1353-00L</b>	<b>Nanostructured Materials Safety</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>				
376-1353-00 V	Nanostructured Materials Safety			1 hrs	Fri/1	12-14	CHN F46	<b>P. Wick</b>
<b>376-1504-00L</b>	<b>Physical Human Robot Interaction (pHRI)</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
376-1504-00 V	Physical Human-Robot Interaction (pHRI) ■ <i>To apply for the course, please prepare a letter of motivation (max. one A4 page). Please include in the letter which study program and semester you are in. Please describe why you would like to attend the course and what you expect to learn during the course. The letter should be sent to Jan Dittli (jan.dittli@hest.ethz.ch) by 05.09.2021.</i>			2 hrs	Thu	08-10	NO E11	<b>O. Lambercy</b>
376-1504-00 U	Physical Human-Robot Interaction (pHRI) ■			2 hrs	Thu	10-12	NO E11	<b>O. Lambercy</b>
<b>376-1622-00L</b>	<b>Practical Methods in Tissue Engineering</b>	<b>W</b>	<b>5 credits</b>	<b>4P</b>				
376-1622-00 P	Practical Methods in Tissue Engineering ■			4 hrs	Mon	13-17	HPL D21.2	<b>M. Zenobi-Wong, S. J. Ferguson, S. Grad, S. Schürle-Finke</b>
<b>376-1651-00L</b>	<b>Clinical and Movement Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
376-1651-00 G	Clinical and Movement Biomechanics			3 hrs	Wed	14-17	HIL E9	<b>N. Singh, R. List, P. Schütz</b>
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3	<b>K. Maniura, M. Rottmar, M. Zenobi-Wong</b>
<b>376-1723-00L</b>	<b>Big Data Analysis in Biomedical Research</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
376-1723-00 V	Big Data Analysis in Biomedical Research ■			2 hrs	Fri	08-10	ETZ F91	<b>E. Araldi, M. Ristow</b>
376-1723-00 U	Big Data Analysis in Biomedical Research ■			2 hrs	Wed 24.09.	16-18 10-14	ETZ F91 ETZ F91	<b>E. Araldi, M. Ristow</b>
<b>376-1985-00L</b>	<b>Trauma Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
376-1985-00 V	Trauma Biomechanics			2 hrs	Thu	10-12	HG D7.1	<b>K.-U. Schmitt, M. H. Muser</b>
376-1985-00 U	Trauma Biomechanics			1 hrs	Thu/2w	14-16	HG E33.3	<b>K.-U. Schmitt, M. H. Muser</b>
<b>376-1974-00L</b>	<b>Colloquium in Biomechanics</b>	<b>W</b>	<b>2 credits</b>	<b>2K</b>				
376-1974-00 K	Colloquium in Biomechanics <i>ONLINE: This course will take place online. Reserved rooms will remain available for students to follow the seminar from there.</i>			2 hrs	Wed	08-10	HG D3.2	<b>B. Helgason, S. J. Ferguson, R. Müller, J. G. Snedeker, B. Taylor, M. Zenobi-Wong</b>
<b>401-0629-00L</b>	<b>Applied Biostatistics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
401-0629-00 G	Applied Biostatistics <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			3 hrs	Tue	13-16	CAB G51	<b>M. Tanadini</b>
<b>402-0674-00L</b>	<b>Physics in Medical Research: From Atoms to Cells</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	<b>B. K. R. Müller</b>
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	<b>B. K. R. Müller</b>
<b>535-0423-00L</b>	<b>Drug Delivery and Drug Targeting</b>	<b>W</b>	<b>2 credits</b>	<b>1.5V</b>				
535-0423-00 V	Drug Delivery and Drug Targeting			1.5 hrs	Tue/1	13-16	HIL E9	<b>J.-C. Leroux, A. Steinauer</b>
<b>551-0317-00L</b>	<b>Immunology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0317-00 V	Immunology I			2 hrs	Tue	08-10	HG G3	<b>M. Kopf, A. Oxenius</b>
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3	<b>U. Kutay, G. Neurohr, M. Peter, K. Weis, I. Zemp</b>
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2). Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2	<b>M. Fussenegger</b>
<b>752-3105-00L</b>	<b>Physiology Guided Food Structure and Process Design</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-3105-00 V	Physiology Guided Food Structure and Process Design <i>Irregular course. Exact dates and time are listed at 'Lehrveranstaltungen'/ courses. The dates are adjusted with the course "Selected Topics in Food Technology" (752-2003-00L).</i>			2 hrs	Thu	10-12 14-16	HG E33.3 LFV E41	<b>E. J. Windhab, M. Deveziaux de Lavergne, S. Michlig Gonzalez, T. Wooster</b>

## ► Major in Molecular Health Sciences

### ►► Compulsory Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>376-0300-00L</b>	<b>Translational Science for Health and Medicine</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					
376-0300-00 G	Translational Science for Health and Medicine ■			2 hrs	Fri	10-12	IFW A36		<b>J. Goldhahn, C. Wolfrum</b>

376-0302-01L **GCP Basic Course (Modules 1 and 2)** O 1 credit 1G

Only for Health Sciences and Technology  
MSc.

376-0302-01 G GCP Basic Course (Modules 1 and 2) 16s hrs  
Courses for German speaking students: Please select courses  
from:  
[http://www.ctc-  
zkf.usz.ch/forschung/gcp-kurse/seiten/gcp-basiskurse.aspx](http://www.ctc-zkf.usz.ch/forschung/gcp-kurse/seiten/gcp-basiskurse.aspx)  
New dates are published quarterly.

G. Senti

For accreditation of TRREE online modules (1, 2.1, 3.1, 3.2, CH-  
Supplement) certificates (CHF 50.00) have to be handed in to  
[claudia.fila@usz.ch](mailto:claudia.fila@usz.ch).

Course for English speaking students only:  
Registration required: Email: [roland.mueller@hest.ethz.ch](mailto:roland.mueller@hest.ethz.ch)

Dates 2022 for English speaking students: GCP-Module 1:  
2.6.2022, Module 2: 9.6.2022

## ►► Elective Courses

Number	Title	Type	ECTS	Hours				Lecturers
227-0939-00L	Cell Biophysics	W	6 credits	4G				T. Zambelli
227-0939-00 G	Cell Biophysics			4 hrs	Tue Thu	16-18 16-18	HG D7.2 ML F38	
327-2125-00L	<b>Microscopy Training SEM I - Introduction to SEM</b> <i>The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.</i>  <i>For PhD students, postdocs and others, a fee will be charged (<a href="http://www.scopem.ethz.ch/education/MTP.html">http://www.scopem.ethz.ch/education/MTP.html</a>).</i>  <i>All applicants must additionally register on this form: (link will follow) The selected applicants will be contacted and asked for confirmation a few weeks before the course date.</i>	W	2 credits	3P				
327-2125-00 P	Microscopy Training SEM I - Introduction to SEM ■ <i>This block course will take place during 5 full days (9am-5pm) on October 25.-29., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.</i>  <i>The repetition (if needed) of this course will take place on Jan 24.-28., 2022.</i>			35s hrs	25.10. 26.10. 27.10. 29.10.	09-12 09-12 09-12 13-16	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1	P. Zeng, A. G. Bittermann, S. Gerstl, L. Grafulha Morales, K. Kunze, J. Reuteler
327-2126-00L	<b>Microscopy Training TEM I - Introduction to TEM</b> <i>The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.</i>  <i>For PhD students, postdocs and others, a fee will be charged (<a href="http://www.scopem.ethz.ch/education/MTP.html">http://www.scopem.ethz.ch/education/MTP.html</a>).</i>  <i>All applicants must additionally register on this form: (link will follow) The selected applicants will be contacted and asked for confirmation a few weeks before the course date.</i>	W	2 credits	3P				
327-2126-00 P	Microscopy Training TEM I - Introduction to TEM <i>This block course will take place during 5 full days (9am-5pm) on November 1.-5., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.</i>  <i>The repetition (if needed) of this course will take place from 29.11.-03.12.2021.</i>			35s hrs	01.11. 02.11. 03.11. 05.11.	09-12 09-12 09-12 13-16	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1	P. Zeng, E. J. Barthazy Meier, A. G. Bittermann, F. Gramm, A. Sologubenko, M. Willinger
376-0121-00L	<b>Multiscale Bone Biomechanics</b> <i>Number of participants limited to 30</i>	W	6 credits	4S				
376-0121-00 S	Multiscale Bone Biomechanics ■			4 hrs	Fri	12-16	HCP E47.2	R. Müller, X.-H. Qin
376-0208-00L	<b>Molecular and Cellular Biology of Exercise and Muscle Regeneration - Practical Aspects</b> <i>Prerequisites: Advanced Physiology and Pathophysiology (376-0008-00L) Laboratory Course in Molecular Biology (376-0006-02L)</i>	W	3 credits	2G				

376-0208-00 G	Molecular and Cellular Biology of Exercise and Muscle Regeneration - Practical Aspects		2 hrs	Wed/2	13-17	SLA B91	<b>O. Bar-Nur, K. De Bock</b>
<b>376-0303-00L</b>	<b>Colloquium in Translational Science (Autumn Semester)</b>	<b>W</b>	<b>1 credit</b>	<b>1K</b>			
376-0303-00 K	Colloquium in Translational Science (Autumn Semester) <i>3 block seminars à 3,5 hrs à 60 minutes 09.15-12.15h - ONLINE.</i>  <i>Mittwoch 29.09.2021 09:15 – 12:15</i> <i>Mittwoch 27.10.2021 09:15 – 12:15</i> <i>Mittwoch 01.12.2021 09:15 – 12:15</i>		1 hrs				<b>M. Ristow</b> , A. Alimonti, N. Cesarovic, C. Ewald, V. Falk, J. Goldhahn, K. Maniura, R. M. Rossi, S. Schürle-Finke, G. Shivashankar, E. Vayena, V. Vogel
<b>376-1151-00L</b>	<b>Translation of Basic Research Findings from Genetics and Molecular Mechanisms of Aging</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
376-1151-00 V	Translation of Basic Research Findings from Genetics and Molecular Mechanisms of Aging <i>Does not take place this semester.</i> <i>Diese Lehrveranstaltung wird nicht mehr angeboten.</i>		2 hrs				to be announced
<b>376-1353-00L</b>	<b>Nanostructured Materials Safety</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>			
376-1353-00 V	Nanostructured Materials Safety		1 hrs	Fri/1	12-14	CHN F46	<b>P. Wick</b>
<b>376-1622-00L</b>	<b>Practical Methods in Tissue Engineering</b>	<b>W</b>	<b>5 credits</b>	<b>4P</b>			
376-1622-00 P	Practical Methods in Tissue Engineering ■		4 hrs	Mon	13-17	HPL D21.2	<b>M. Zenobi-Wong</b> , S. J. Ferguson, S. Grad, S. Schürle-Finke
<b>376-1723-00L</b>	<b>Big Data Analysis in Biomedical Research</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>			
376-1723-00 V	Big Data Analysis in Biomedical Research ■		2 hrs	Fri	08-10	ETZ F91	<b>E. Araldi</b> , M. Ristow
376-1723-00 U	Big Data Analysis in Biomedical Research ■		2 hrs	Wed 24.09.	16-18 10-14	ETZ F91 ETZ F91	<b>E. Araldi</b> , M. Ristow
<b>551-0223-00L</b>	<b>Immunology III</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>			
551-0223-00 V	Immunology III		2 hrs	Mon	10-12	HCI H8.1	<b>M. Kopf</b> , S. B. Freigang, J. Kisielow, S. R. Leibundgut, A. Oxenius, C. Schneider, R. Spörri, L. Tortola, E. Wetter Slack
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>			
	<i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>  <i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>						
551-0309-00 V	Concepts in Modern Genetics <b>**gemeinsam mit der Universität Zürich**</b>		4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	<b>Y. Barral</b> , D. Bopp, A. Hajnal, O. Voinnet
<b>551-0317-00L</b>	<b>Immunology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
551-0317-00 V	Immunology I		2 hrs	Tue	08-10	HG G3	<b>M. Kopf</b> , A. Oxenius
<b>551-0512-00L</b>	<b>Current Topics in Molecular and Cellular Neurobiology</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>			
551-0512-00 S	Current Topics in Molecular and Cellular Neurobiology <i>Does not take place this semester.</i> <i>Permission from lecturers required for all students</i> <i>This course may be taken only once, either in the spring semester or in the autumn semester.</i>		1 hrs				<b>U. Suter</b>
<b>551-0571-00L</b>	<b>From DNA to Diversity (University of Zurich)</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
	<i>No enrolment to this course at ETH Zurich.</i> <i>Book the corresponding module directly at UZH as an incoming student.</i> <i>UZH Module Code: BIO336</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>						
551-0571-00 V	From DNA to Diversity (University of Zurich) <b>**Course at University of Zurich**</b>		2 hrs				<b>A. Hajnal</b> , D. Bopp
<b>551-1153-00L</b>	<b>Systems Biology of Metabolism</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>			
551-1153-00 V	Systems Biology of Metabolism		2 hrs	Mon	10-12	HPL D34	<b>U. Sauer</b> , N. Zamboni, M. Zampieri
<b>551-1171-00L</b>	<b>Immunology: From Milestones to</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>			

<b>Current Topics</b>							
551-1171-00 S	Immunology: From Milestones to Current Topics <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>		2 hrs	Tue	14-16	HIT H51	<b>B. Ludewig</b> , J. Kisielow, A. Oxenius, L. Tortola, University lecturers
<b>551-1303-00L</b>	<b>Cellular Biochemistry of Health and Disease</b> <i>Number of participants limited to 20.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>			
551-1303-00 S	Cellular Biochemistry of Health and Disease		2 hrs	Fri	10-12	HIT H42	<b>V. Korkhov</b> , Y. Barral, T. Ishikawa, M. Jagannathan, R. Kroschewski, G. Neurohr, M. Peter, A. E. Smith, B. Snijder, K. Weis
<b>636-0017-00L</b>	<b>Computational Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>			
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>		3 hrs	Mon	16-18	BSA E46 HG D16.2	<b>T. Vaughan</b>
				Thu	18-19 12-13	HG D16.2 BSA E46	
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>		2 hrs				<b>T. Vaughan</b>
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>			
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2). Attention: Lecture starts on Wednesday, September 29 2021</i>		3 hrs	Wed	13-16	BSA E46 HG D16.2	<b>M. Fussenegger</b>
<b>636-0507-00L</b>	<b>Synthetic Biology II</b> <i>Students in the MSc Biotechnology (Programme Regulations 2017) may select Synthetic Biology II instead of the Research Project 1.</i>	<b>W</b>	<b>8 credits</b>	<b>4A</b>			
636-0507-00 A	Synthetic Biology II <i>Does not take place this semester. Permission from lecturers required for all students This course will (hopefully!) be offered again in Autumn Semester 2022!</i>		4 hrs	by appt.			<b>S. Panke</b> , Y. Benenson, J. Stelling
<b>701-1703-00L</b>	<b>Evolutionary Medicine for Infectious Diseases</b> <i>Number of participants limited to 35.</i>  <i>Waiting list will be deleted October 3rd, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>			
701-1703-00 G	Evolutionary Medicine for Infectious Diseases		2 hrs	Fri	10-12	HG E41	<b>A. Hall</b>
<b>752-3105-00L</b>	<b>Physiology Guided Food Structure and Process Design</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
752-3105-00 V	Physiology Guided Food Structure and Process Design <i>Irregular course. Exact dates and time are listed at 'Lehrveranstaltungen/ courses. The dates are adjusted with the course "Selected Topics in Food Technology" (752-2003-00L).</i>		2 hrs	Thu	10-12 14-16	HG E33.3 LFV E41	<b>E. J. Windhab</b> , M. Devezex de Lavergne, S. Michlig Gonzalez, T. Wooster
<b>752-4009-00L</b>	<b>Molecular Biology of Foodborne Pathogens</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
752-4009-00 V	Molecular Biology of Foodborne Pathogens		2 hrs	Thu	10-12	HG E1.2	<b>M. Loessner</b> , M. Schmelcher, M. Schuppler, E. Wetter Slack
<b>752-6101-00L</b>	<b>Dietary Etiologies of Chronic Disease</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
752-6101-00 V	Dietary Etiologies of Chronic Disease		2 hrs	Thu	08-10	CAB G11	<b>M. B. Zimmermann</b>
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
752-6105-00 V	Epidemiology and Prevention		2 hrs	Wed	12-14	CHN C14	<b>M. Puhon</b> , R. Heusser

## ► Major in Neurosciences

### ►► Compulsory Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>376-0300-00L</b>	<b>Translational Science for Health and Medicine</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
376-0300-00 G	Translational Science for Health and Medicine	■		2 hrs	Fri	10-12	IFW A36	<b>J. Goldhahn</b> , C. Wolfrum
<b>376-0302-01L</b>	<b>GCP Basic Course (Modules 1 and 2)</b> <i>Only for Health Sciences and Technology MSc.</i>	<b>O</b>	<b>1 credit</b>	<b>1G</b>				

376-0302-01 G	GCP Basic Course (Modules 1 and 2) Courses for German speaking students: Please select courses from: <a href="http://www.ctc-zkf.usz.ch/forschung/gcp-kurse/seiten/gcp-basiskurse.aspx">http://www.ctc-zkf.usz.ch/forschung/gcp-kurse/seiten/gcp-basiskurse.aspx</a> New dates are published quarterly.  For accreditation of TRREE online modules (1, 2.1, 3.1, 3.2, CH-Supplement) certificates (CHF 50.00) have to be handed in to <a href="mailto:claudia.fila@usz.ch">claudia.fila@usz.ch</a> .  Course for English speaking students only: Registration required: Email: <a href="mailto:roland.mueller@hest.ethz.ch">roland.mueller@hest.ethz.ch</a>  Dates 2022 for English speaking students: GCP-Module 1: 2.6.2022, Module 2: 9.6.2022	16s hrs	G. Senti
---------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------	----------

## ►► Elective Courses

Number	Title	Type	ECTS	Hours					Lecturers
376-1305-00L	<b>Development of the Nervous System (University of Zurich)</b> No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO344  Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a>	W	3 credits	2V					
376-1305-00 V	Development of the Nervous System (University of Zurich) **together with University of Zurich**  One hour of self-study per week is included in the course.			2 hrs	Mon	08-10	I15 G40		University lecturers
376-1305-01L	<b>Neural Systems for Sensory, Motor and Higher Brain Functions</b> Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO343 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a>	W	3 credits	2V					
376-1305-01 V	Neural Systems for Sensory, Motor and Higher Brain Functions **together with University of Zurich**  BE AWARE: Lecture starts already on 20.09.2021.  4 hours of self-study (preparation and post-study) per week are included in the course.			2 hrs	Mon	10-12 20.09. 10-12	I15 G40 I15 G40		G. Schratz, J. Bohacek, L. Filli, W. von der Behrens, further lecturers
551-0309-00L	<b>Concepts in Modern Genetics</b> Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.  Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a>	W	6 credits	4V					
551-0309-00 V	Concepts in Modern Genetics **gemeinsam mit der Universität Zürich**			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60		Y. Barral, D. Bopp, A. Hajnal, O. Voinnet
227-0447-00L	<b>Image Analysis and Computer Vision</b>	W	6 credits	3V+1U					
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1		L. Van Gool, E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2		L. Van Gool, E. Konukoglu, F. Yu
227-1037-00L	<b>Introduction to Neuroinformatics</b>	W	6 credits	2V+1U+1A					
227-1037-00 V	Introduction to Neuroinformatics			2 hrs	Thu	08-10	NO C60		V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 U	Introduction to Neuroinformatics			1 hrs	Thu	10-11	NO C60		V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 A	Introduction to Neuroinformatics Self-study, no fixed presence required.			1 hrs					V. Mante
227-1047-00L	<b>Consciousness: From Philosophy to</b>	W	3 credits	2V					



**Neuroscience (University of Zurich)**

No enrolment to this course at ETH Zurich.  
Book the corresponding module directly at  
UZH as an incoming student.  
UZH Module Code: INI410

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

227-1047-00 V	Consciousness: From Philosophy to Neuroscience (University of Zurich) <i>**Course at University of Zurich**</i>	2 hrs	Thu	17-19	UNI ZH.	<b>D. Kiper</b>
<b>327-2125-00L</b>	<b>Microscopy Training SEM I - Introduction to SEM</b> <i>The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.</i>  <i>For PhD students, postdocs and others, a fee will be charged (<a href="http://www.scopem.ethz.ch/education/MTP.html">http://www.scopem.ethz.ch/education/MTP.html</a>).</i>  <i>All applicants must additionally register on this form: (link will follow)</i> <i>The selected applicants will be contacted and asked for confirmation a few weeks before the course date.</i>	<b>W</b>	<b>2 credits</b>	<b>3P</b>		
327-2125-00 P	Microscopy Training SEM I - Introduction to SEM ■ <i>This block course will take place during 5 full days (9am-5pm) on October 25.-29., 2021. Lectures will be held in the seminar room, practical exercises in rooms of Scopem.</i>  <i>The repetition (if needed) of this course will take place on Jan 24.-28., 2022.</i>	35s hrs	25.10. 26.10. 27.10. 29.10.	09-12 09-12 09-12 13-16	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1	<b>P. Zeng</b> , A. G. Bittermann, S. Gerstl, L. Grafulha Morales, K. Kunze, J. Reuteler
<b>327-2126-00L</b>	<b>Microscopy Training TEM I - Introduction to TEM</b> <i>The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.</i>  <i>For PhD students, postdocs and others, a fee will be charged (<a href="http://www.scopem.ethz.ch/education/MTP.html">http://www.scopem.ethz.ch/education/MTP.html</a>).</i>  <i>All applicants must additionally register on this form: (link will follow)</i> <i>The selected applicants will be contacted and asked for confirmation a few weeks before the course date.</i>	<b>W</b>	<b>2 credits</b>	<b>3P</b>		
327-2126-00 P	Microscopy Training TEM I - Introduction to TEM <i>This block course will take place during 5 full days (9am-5pm) on November 1.-5., 2021. Lectures will be held in the seminar room, practical exercises in rooms of Scopem.</i>  <i>The repetition (if needed) of this course will take place from 29.11.-03.12.2021.</i>	35s hrs	01.11. 02.11. 03.11. 05.11.	09-12 09-12 09-12 13-16	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1	<b>P. Zeng</b> , E. J. Barthazy Meier, A. G. Bittermann, F. Gramm, A. Sologubenko, M. Willinger
<b>376-0221-00L</b>	<b>Methods and Concepts in Human Systems Neuroscience and Motor Control</b> <i>Number of participants limited to 12</i>	<b>W</b>	<b>4 credits</b>	<b>3P</b>		
376-0221-00 P	Methods and Concepts in Human Systems Neuroscience and Motor Control ■	3 hrs	Mon	10-13	HPS D29	<b>M. Schrafl-Altermatt</b>
<b>376-1151-00L</b>	<b>Translation of Basic Research Findings from Genetics and Molecular Mechanisms of Aging</b> <i>Number of participants limited to 30.</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
376-1151-00 V	Translation of Basic Research Findings from Genetics and Molecular Mechanisms of Aging <i>Does not take place this semester. Diese Lehrveranstaltung wird nicht mehr angeboten.</i>	2 hrs				to be announced
<b>376-1177-00L</b>	<b>Human Factors I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
376-1177-00 V	Human Factors I	2 hrs	Tue	14-16	HG G3	<b>M. Menozzi Jäckli</b> , R. Huang, M. Siegrist
<b>376-1179-00L</b>	<b>Applications of Cybernetics in Ergonomics</b>	<b>W</b>	<b>1 credit</b>	<b>1U</b>		
376-1179-00 U	Applications of Cybernetics in Ergonomics	1 hrs	Wed/2w	14-16	HG E21	<b>M. Menozzi Jäckli</b> , Y.-Y. Hedinger Huang, R. Huang
<b>376-1414-00L</b>	<b>Current Topics in Brain Research (HS)</b>	<b>W</b>	<b>1 credit</b>	<b>1.5K</b>		

376-1414-00 K	Current Topics in Brain Research (HS) **together with University of Zurich** More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#/details/2021/003/SM/50034595">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#/details/2021/003/SM/50034595</a>	1.5 hrs	Mon	12-14	I35 F32	I. Mansuy, C. Földy, F. Helmchen, S. Jessberger, T. Karayannis	
376-1504-00L	Physical Human Robot Interaction (pHRI)	W	4 credits	2V+2U			
376-1504-00 V	Physical Human-Robot Interaction (pHRI) ■ To apply for the course, please prepare a letter of motivation (max. one A4 page). Please include in the letter which study program and semester you are in. Please describe why you would like to attend the course and what you expect to learn during the course. The letter should be sent to Jan Dittli (jan.dittli@hest.ethz.ch) by 05.09.2021.		2 hrs	Thu	08-10	NO E11	O. Lambercy
376-1504-00 U	Physical Human-Robot Interaction (pHRI) ■		2 hrs	Thu	10-12	NO E11	O. Lambercy
376-1723-00L	Big Data Analysis in Biomedical Research	W	4 credits	2V+2U			
376-1723-00 V	Big Data Analysis in Biomedical Research ■		2 hrs	Fri	08-10	ETZ F91	E. Araldi, M. Ristow
376-1723-00 U	Big Data Analysis in Biomedical Research ■		2 hrs	Wed 24.09.	16-18 10-14	ETZ F91 ETZ F91	E. Araldi, M. Ristow
551-0317-00L	Immunology I	W	3 credits	2V			
551-0317-00 V	Immunology I		2 hrs	Tue	08-10	HG G3	M. Kopf, A. Oxenius
551-0319-00L	Cellular Biochemistry (Part I)	W	3 credits	2V			
551-0319-00 V	Cellular Biochemistry (Part I)		2 hrs	Mon	14-16	HCI J3	U. Kutay, G. Neurohr, M. Peter, K. Weis, I. Zemp
752-4009-00L	Molecular Biology of Foodborne Pathogens	W	3 credits	2V			
752-4009-00 V	Molecular Biology of Foodborne Pathogens		2 hrs	Thu	10-12	HG E1.2	M. Loessner, M. Schmelcher, M. Schuppler, E. Wetter Slack
752-6403-00L	Nutrition and Performance	W	2 credits	2V			
752-6403-00 V	Nutrition and Performance		2 hrs	Thu	14-16	ML E12	S. Mettler, M. B. Zimmermann

### ► Practical Training

Practical Training (former name: Practical Training and Semester project) only for majors mentioned below:

- Human Movement Science and Sport
- Medical Technology
- Molecular Health Sciences
- Neurosciences

Number	Title	Type	ECTS	Hours	Lecturers
<b>376-2110-00L</b>	<b>Practical Training 12 Weeks (Job or Research Oriented)</b>	<b>W</b>	<b>15 credits</b>		
376-2110-00 A	Practical Training 12 Weeks (Job or Research Oriented) ■ min. 12 weeks full-time equivalent (12x40h)				Supervisors
<b>376-2111-00L</b>	<b>Practical Training 8 Weeks (Job or Research Oriented)</b>	<b>W</b>	<b>10 credits</b>		
376-2111-00 A	Practical Training 8 Weeks (Job or Research Oriented) ■ min. 8 weeks full-time equivalent (8x40h)				Supervisors
<b>376-2112-00L</b>	<b>Practical Training 4 Weeks (Job or Research Oriented)</b>	<b>W</b>	<b>5 credits</b>		
376-2112-00 A	Practical Training 4 Weeks (Job or Research Oriented) ■ min. 4 weeks full-time equivalent (4x40h)				Supervisors

### ► GESS Science in Perspective

see Science in Perspective: Language  
Courses ETH/UZH

see Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended Science in Perspective  
(Type B) for D-HEST.

### ► Research Internship

Number	Title	Type	ECTS	Hours	Lecturers
<b>376-2100-00L</b>	<b>Research Internship</b>	<b>O</b>	<b>15 credits</b>		
376-2100-00 A	Research Internship ■ min. 12 weeks full-time equivalent (12x40h)				Supervisors

### ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>376-2000-00L</b>	<b>Master's Thesis</b>	<b>O</b>	<b>30 credits</b>	<b>71D</b>	
	Only students fulfilling the following criteria can start with their master thesis: a. successful completion of the bachelor programme; b. fulfillment of any additional requirements				

necessary to gain admission to the master programme.

376-2000-00 D Master's Thesis ■

1000s hrs

Supervisors

## ► Course Units for Additional Admission Requirements

*The courses below are only for MSc students with additional admission requirements.*

Number	Title	Type	ECTS	Hours	Lecturers
406-0253-AAL	<b>Mathematics I &amp; II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	13 credits	28R	
406-0253-AA R	Mathematics I & II <i>Self-study course. No presence required.</i>			390s hrs	L. Halbeisen
376-0203-AAL	<b>Movement and Sport Biomechanics</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course!</i>	E-	4 credits	3R	
376-0203-AA R	Movement and Sport Biomechanics <i>Self-study course. No presence required.</i>			42s hrs	B. Taylor, N. Singh
406-0062-AAL	<b>Physics I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	5 credits	11R	
406-0062-AA R	Physics I <i>Self-study course. No presence required.</i>			150s hrs	A. Vaterlaus
376-1714-AAL	<b>Biocompatible Materials</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	4 credits	9R	
376-1714-AA R	Biocompatible Materials <i>Self-study course. No presence required.</i>			120s hrs	K. Maniura, M. Zenobi-Wong

## Health Sciences and Technology Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# High-Energy Physics (Joint Master with IP Paris)

## ► Core Subjects

### ►► Core Courses in Theoretical Physics

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0843-00L</b>	<b>Quantum Field Theory I</b> <i>Special Students UZH must book the module PHY551 directly at UZH.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>					
402-0843-00 V	Quantum Field Theory I <i>**together with University of Zurich**</i>			4 hrs	Mon Thu	14-16 10-12	HPV G4 HPV G5		<b>G. M. Graf</b>
402-0843-00 U	Quantum Field Theory I <i>**together with University of Zurich**</i>  <i>Lecture starts on 23 September 2021.</i> <i>Thu 14-16 or Fri 10-12</i> <i>Exercises start in the second week of the semester.</i>			2 hrs	Thu  Fri	14-16  10-12	HCP E47.4 HIL B21 HIL D10.2 HIT H42 HIT J51 HIT J53 HIT K52		<b>G. M. Graf</b>

### ►► Core Courses in Experimental Physics

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0891-00L</b>	<b>Phenomenology of Particle Physics I</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>					
402-0891-00 V	Phenomenology of Particle Physics I			3 hrs	Mon Tue	12-14 13-14	HPV G5 HPV G5		<b>P. Crivelli, A. de Cosa</b>
402-0891-00 U	Phenomenology of Particle Physics I <i>Tue 14-16 or Wed 8-10</i>			2 hrs	Tue  Wed	14-16  08-10	HCP E47.1 HCP E47.2 HIT K51 HPT C103		<b>P. Crivelli, A. de Cosa</b>

## ► Electives

### ►► Optional Subjects in Physics

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0715-00L</b>	<b>Low Energy Particle Physics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0715-00 V	Low Energy Particle Physics <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	09-11	HIT F31.1		<b>A. Soter, P. A. Schmidt-Wellenburg</b>
402-0715-00 U	Low Energy Particle Physics <i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>			1 hrs	Mon	11-12	HIT F31.1		<b>A. Soter, P. A. Schmidt-Wellenburg</b>
<b>402-0725-00L</b>	<b>Experimental Methods and Instruments of Particle Physics</b> <i>Special Students UZH must book the module PHY461 directly at UZH.</i>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
402-0725-00 V	Experimental Methods and Instruments of Particle Physics <i>**together with University of Zurich**</i>			3 hrs	Wed Thu	14-16 13-14	UNI ZH. UNI ZH.		<b>U. Langenegger, T. Schietinger, University lecturers</b>
402-0725-00 U	Experimental Methods and Instruments of Particle Physics <i>**together with University of Zurich**</i>			1 hrs	Thu	14-15	UNI ZH.		<b>U. Langenegger, T. Schietinger, University lecturers</b>
<b>402-0713-00L</b>	<b>Astro-Particle Physics I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0713-00 V	Astro-Particle Physics I <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	14-16	HIT F32		<b>A. Biland</b>
402-0713-00 U	Astro-Particle Physics I <i>or by appointment</i>  <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			1 hrs	Thu	16-17	HIT F32 HIT H51		<b>A. Biland</b>
<b>402-0833-00L</b>	<b>Particle Physics in the Early Universe</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0833-00 V	Particle Physics in the Early Universe <i>Does not take place this semester.</i>			2 hrs					
402-0833-00 U	Particle Physics in the Early Universe <i>Does not take place this semester.</i>			1 hrs					
<b>402-0767-00L</b>	<b>Neutrino Physics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0767-00 V	Neutrino Physics			2 hrs	Tue	14-16	HIL C10.2		<b>A. Rubbia, D. Sgalaberna</b>
402-0767-00 U	Neutrino Physics			1 hrs	Tue	16-17	HIT F31.1		<b>A. Rubbia, D. Sgalaberna</b>
<b>402-0830-00L</b>	<b>General Relativity</b> <i>Special Students UZH must book the module PHY511 directly at UZH.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>					

402-0830-00 V	General Relativity <b>**together with University of Zurich**</b>	4 hrs	Tue Thu	16-18 12-14	HPV G5 HPV G5	<b>C. Anastasiou</b>
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there."</i>					
402-0830-00 U	General Relativity <b>**together with University of Zurich**</b>	2 hrs	Thu	16-18	HIT F31.1 HIT F31.2 HIT J53 HIT K52 HCI D2 HCI D8 HIL F10.3 HIT J52	<b>C. Anastasiou</b>
			Fri	12-14		
<b>402-0777-00L</b>	<b>Particle Accelerator Physics and Modeling I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>		
402-0777-00 V	Particle Accelerator Physics and Modeling I		2 hrs	Fri	10-12	HIT J52 <b>A. Adelman</b>
402-0777-00 U	Particle Accelerator Physics and Modeling I		1 hrs	Fri	13-14	HIT J51 <b>A. Adelman</b>
<b>402-0851-00L</b>	<b>QCD: Theory and Experiment</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>		
402-0851-00 G	QCD: Theory and Experiment <i>Does not take place this semester. **together with University of Zurich**</i>		40s hrs			<b>G. Dissertori</b> , University lecturers
	<i>Block course</i>					
<b>402-0897-00L</b>	<b>Introduction to String Theory</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>		
402-0897-00 V	Introduction to String Theory		2 hrs	Tue	10-12	HPV G5 <b>J. Brödel</b>
402-0897-00 U	Introduction to String Theory		1 hrs	Wed	10-11	HCI J4 HPL D32 <b>J. Brödel</b>
<b>402-0845-80L</b>	<b>Scattering Amplitudes in Quantum Field Theories</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>		
	<i>Special Students UZH must book the module PHY577 directly at UZH.</i>					
402-0845-80 V	Scattering Amplitudes in Quantum Field Theories <i>Does not take place this semester. **together with University of Zurich**</i>		2 hrs			University lecturers
402-0845-80 U	Scattering Amplitudes in Quantum Field Theories <i>Does not take place this semester. **together with University of Zurich**</i>		1 hrs			University lecturers
<b>402-0886-00L</b>	<b>Quantum Chromodynamics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>		
	<i>Special Students UZH must book the module PHY564 directly at UZH.</i>					
402-0886-00 V	Quantum Chromodynamics <b>**together with University of Zurich**</b> <i>Former "Introduction to Quantum Chromodynamics", from HS21 in the autumn semester.</i>		2 hrs	Mon	10-12	HCP E47.1 <b>T. K. Gehrmann</b>
402-0886-00 U	Quantum Chromodynamics <b>**together with University of Zurich**</b> <i>Former "Introduction to Quantum Chromodynamics", from HS21 in the autumn semester.</i>		1 hrs	Mon	12-13	HCP E47.1 <b>T. K. Gehrmann</b>
<b>402-0845-61L</b>	<b>Effective Field Theories for Particle Physics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>		
	<i>Special Students UZH must book the module PHY578 directly at UZH.</i>					
402-0845-61 V	Effective Field Theories for Particle Physics <b>**together with University of Zurich**</b>		2 hrs	Tue	14-16	HCI H8.1 <b>P. Stoffer</b>
	<i>More information at: <a href="https://www.physik.uzh.ch/en/teaching/PHY578.html">https://www.physik.uzh.ch/en/teaching/PHY578.html</a></i>					
402-0845-61 U	Effective Field Theories for Particle Physics <b>**together with University of Zurich**</b>		1 hrs	Tue	16-17	HCI H8.1 HIT K52 <b>P. Stoffer</b>
	<i>More information at: <a href="https://www.physik.uzh.ch/en/teaching/PHY578.html">https://www.physik.uzh.ch/en/teaching/PHY578.html</a></i>					

## ►► Optional Subjects in Mathematics

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-3531-00L</b>	<b>Differential Geometry I</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>	
	<i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (<a href="http://www.math.ethz.ch/studiensekretariat">www.math.ethz.ch/studiensekretariat</a>) after having received the credits.</i>				

401-3531-00 V	Differential Geometry I	4 hrs	Mon	14-16	ML H44	J. Serra
401-3531-00 U	Differential Geometry I <i>Groups are selected in myStudies. Thu 13-14 or Thu 16-17 or Fri 13-14</i>	1 hrs	Wed Thu Fri	14-16 13-14 16-17 13-14	HG E5 HG E22 IFW C31 HG F3	J. Serra
<b>401-3461-00L</b>	<b>Functional Analysis I</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>		
401-3461-00 V	Functional Analysis I	4 hrs	Mon Thu	10-12 14-16	HG D7.1 HG G5	J. Teichmann
401-3461-00 U	Functional Analysis I <i>Groups are selected in myStudies.</i>	1 hrs	Mon	09-10	HG G26.1 HG G26.5 ML J34.1	J. Teichmann

## ► Proseminars and Semester Papers

*To organise a semester project take contact with one of the instructors.*

Number	Title	Type	ECTS	Hours	Lecturers
<b>402-0717-MSL</b>	<b>Particle Physics at CERN</b>	<b>W</b>	<b>8 credits</b>	<b>15P</b>	
402-0717-00 P	Particle Physics at CERN ■ <i>Permission from lecturers required for all students</i>			210s hrs by appt.	<b>W. Lustermann</b>
<b>402-0719-MSL</b>	<b>Particle Physics at PSI (Paul Scherrer Institute)</b>	<b>W</b>	<b>8 credits</b>	<b>15P</b>	
402-0719-00 P	Particle Physics at PSI (Paul Scherrer Institute) ■ <i>Permission from lecturers required for all students Usually three weeks during summer semester break, depending on available PSI beam times. The exact dates are being fixed during FS. Please consult the lecturer.</i>			210s hrs	<b>A. Soter, A. S. Antognini</b>
<b>402-0210-MSL</b>	<b>Proseminar Theoretical Physics</b> <i>The number of participants is limited.</i>	<b>W</b>	<b>8 credits</b>	<b>4S</b>	
402-0210-MS S	Proseminar Theoretical Physics (Physics Master / High-Energy Physics Master) ■ <i>Permission from lecturers required for all students First meeting will be communicated. During this meeting, the list of student participants will be finalised, topics and tutors will be assigned. Since Proseminar presentations during the course of the semester are often thematically linked, we suggest that all deregistrations from the module be done by the first three weeks of the semester. No shows after this will result in a no show grade.</i>			4 hrs Mon 08-12	HIT F32 HIT J52 Supervisors
<b>402-0217-MSL</b>	<b>Semester Project in Theoretical Physics</b>	<b>W</b>	<b>8 credits</b>	<b>15A</b>	
402-0217-MS A	Semester Project in Theoretical Physics ■ <i>Permission from lecturers required for all students</i>			210s hrs by appt.	Supervisors
<b>402-0740-00L</b>	<b>Experimental Foundations of Particle Physics</b>	<b>W</b>	<b>8 credits</b>	<b>3S</b>	
402-0740-00 S	Experimental Foundations of Particle Physics			3 hrs Tue 09-12	HCI E2 <b>M. Backhaus, M. Donegà</b>
<b>402-0215-MSL</b>	<b>Experimental Semester Project in Physics</b>	<b>W</b>	<b>8 credits</b>	<b>15A</b>	
402-0215-MS A	Experimental Semester Project in Physics (Physics Master / High-Energy Physics Master) ■ <i>Permission from lecturers required for all students</i>			210s hrs by appt.	Supervisors

## ► GESS Science in Perspective

*see GESS Science in Perspective:  
Language Courses ETH/UZH*

*see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended GESS Science in  
Perspective (Type B) for D-PHYS.*

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>402-2000-00L</b>	<b>Scientific Works in Physics</b> <i>Target audience: Master students who cannot document to have received an adequate training in working scientifically.</i>	<b>O</b>	<b>0 credits</b>		

Directive  
<https://www.ethz.ch/content/dam/ethz/communication/docs/weisungssammlung/files-en/declaration-of-originality.pdf>

402-2000-00 V Scientific Works in Physics 2s hrs **C. Eichler**  
*The lecture will be performed twice: on 28 October 2021 und 9 December 2021 from 16:45-18:30. Only one lecture has to be attended.*

**462-0900-00L Master's Thesis O 30 credits 57D**  
*Further information:  
[www.phys.ethz.ch/phys/education/master/msc-theses](http://www.phys.ethz.ch/phys/education/master/msc-theses)*

462-0900-00 D Master's Thesis (High Energy Physics) ■ 800s hrs by appt. Supervisors  
*Permission from lecturers required for all students*

#### High-Energy Physics (Joint Master with IP Paris) - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Human Medicine Bachelor

## ► First Year Examinations

### ►► First Year Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>377-0105-00L</b>	<b>Musculoskeletal System</b> <i>Only for Human Medicine BSc</i>	<b>O</b>	<b>5 credits</b>	<b>5V</b>				
377-0105-00 V	Bewegungsapparat ■ <i>Findet in der 1. Semesterhälfte statt (29.09.-12.11.2021)!</i>  <i>Die Vorlesung findet am 22.10.21 ausnahmsweise im HPH G 1 statt.</i>			5 hrs	Mon/1 Tue/1  Wed/1 Fri/1 22.10.	13-17 08-10 14-16 16-18 14-18 14-18	I17 M5 I17 M5 HCI J3 HG D1.2 HCI G3 HPH G1	<b>J. Goldhahn</b> , O. Distler, C. Maake, M. Steinwachs, R. Stocker
<b>377-0107-00L</b>	<b>Nervous System</b> <i>Only for Human Medicine BSc</i>	<b>O</b>	<b>5 credits</b>	<b>5V</b>				
377-0107-00 V	Nervensystem ■ <i>Findet in der 2. Semesterhälfte statt (15.11.-24.12.2021).</i>			5 hrs	Mon/2 Tue/2  Wed/2 Fri/2 23.12. 24.12.	13-17 08-10 14-16 16-18 14-18 12-14 08-11	I17 M5 I17 M5 HCI J3 HG D1.2 HCI G3 HIL E3 HIL E3	<b>D. P. Wolfer</b> , I. Amrein, J. Bohacek, D. Burdakov, G. Schratt, L. Slomianka, O. Ullrich, N. Wenderoth, further lecturers
<b>551-0033-00L</b>	<b>Molecular Genetics and Cell Biology</b> <i>Only for Health Sciences and Technology BSc and Human Medicine BSc.</i>	<b>O</b>	<b>5 credits</b>	<b>5G</b>				
551-0033-00 G	Molekulare Genetik und Zellbiologie <i>Vorlesung mit Übungen: Mi 14-16 h</i> <i>Vorlesung: Do 10-12 h</i> <i>Übungen: Fr 11-12 h</i>			5 hrs	Wed  Thu Fri	14-16  10-12 11-12	HG E1.2 HG E7 HPH G1 HCI D8 HCI E2 HIL B21 HIL D10.2 HIT K51 HPL D32 HPL D34	<b>J. Corn</b> , F. Allain, K. Köhler
<b>529-5000-00L</b>	<b>Chemistry (for Medical Students)</b> <i>Only for Human Medicine BSc</i>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>				
529-5000-00 V	Chemie (für Mediziner)			3 hrs	Tue/2w Wed	12-14 08-10	HIL E6 HG D1.2	<b>S. Wolfrum</b>
529-5000-00 U	Chemie (für Mediziner) <i>Groups are selected in myStudies.</i>			1 hrs	Fri/2w	08-10	HIL D60.1 HIL E10.1 HIL F10.3 HIT F31.2 HIT H51 HIT J52 HIT J53 HIT K51	<b>S. Wolfrum</b>

### ►► First Year Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
401-0281-00L	Mathematics I <i>Only for Human Medicine BSc.</i>	O	4 credits	3V+1U				
401-0281-00 V	Mathematik I <i>Der Kurs "Mathematik I" beginnt erst in der zweiten Semesterwoche. Vorlesungsbeginn am Donnerstag um 07:45.</i>			3 hrs	Wed Thu/2w	10-12 08-10	HG D1.2 HIL E8	L. Keller
401-0281-00 U	Mathematik I <i>Groups are selected in myStudies. Zusätzlich ist ab der dritten Semesterwoche das StudyCentre geöffnet: Di 18-20 im HCP E 47.2</i>			1 hrs	Thu/2w	08-10	HCI E8 HCI J8 HIT H42 HPT C103	L. Keller

### ► Additional First Year Courses

Number	Title	Type	ECTS	Hours					Lecturers
377-0101-00L	Fundamentals of Medicine and the Human Body Only for Human Medicine BSc	O	2 credits	3G					
377-0101-00 G	Grundbausteine Mensch ■ Der Kurs findet ganztags in der 1. Semesterwoche am Kantonspital Baden statt. Ausnahme: Am 20.09.2021 anschliessend an die Begrüssungsveranstaltung im HG D 7.1. Zusätzlich am 27.09.2021 ganztags an der ETH Hönggerberg			3 hrs	27.09.	09-12	HPV G4	J. Goldhahn, G. Csúcs, R.-A. Kubik, C. Wolfrum	
377-0111-00L	Medical Anamnesis Technique Only for Human Medicine BSc	O	2 credits	2G					



377-0111-00 G	Ärztliche Anamnesetechnik ■ 1. Vorlesung am 30.09.2021 im Careum Auditorium  Ort: Careum Auditorium oder Online  Anwesenheit erforderlich bei Terminen in den Pflegezentren (21.10./18.11./16.12.2021).  Die genauen Unterrichtszeiten von ONLINE - Veranstaltungen werden von den Dozierenden kommuniziert.	2 hrs	Thu 15-17 07.10. 15-17 21.10. 15-17 04.11. 15-17 18.11. 15-17 25.11. 15-17 09.12. 15-17 16.12. 15-17	CA REUM ON LINE Ex tern ON LINE Ex tern ON LINE ON LINE Ex tern	S. Markun, S. Neuner-Jehle
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	---------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------	----------------------------

## ► Courses in Organ Systems and Clinical Practice

### ►► Examination Block A

Number	Title	Type	ECTS	Hours				Lecturers
377-0301-11L	<b>Blood, Immune System</b> Only for Human Medicine BSc	O	4 credits	5V				
377-0301-11 V	Blut, Immunsystem ■ Die Lehrveranstaltung findet vom 20.09.-22.10.2021 statt. Lehrsprachen Deutsch und Englisch.			5 hrs	Mon/1 Tue/1 Thu/1 Fri Fri/1	14-18 15-17 13-17 08-10 14-18	CHN C14 I17 M5 I03 G85 HCP E47.2 HCP E47.3 HG D1.2	F. Sallusto, L. Flatz, G. Guarda, S. Monticelli, A. Theocharides, O. Ullrich, further lecturers
377-0301-02L	<b>Nutrition and Digestion</b> Only for Human Medicine BSc	O	5 credits	5V				
377-0301-02 V	Ernährung und Verdauung ■ Findet vom 25.10. - 26.11.2021 statt.			5 hrs	Mon/1 Tue/1 Thu/1 Fri/1	14-18 15-17 13-17 14-18	CHN C14 I17 M5 I03 G85 HG D1.2	W. Langhans, L. Käser, C. Stockmann
377-0301-03L	<b>Endocrinology, Metabolism</b> Only for Human Medicine BSc	O	5 credits	5V				
377-0301-03 V	Endokrinologie, Stoffwechsel ■ Findet vom 29.11. - 24.12.2021 statt.			5 hrs	Mon/2 Tue/2 Thu/2 Fri/2	14-18 15-17 13-17 14-18	CHN C14 I17 M5 I03 G85 HG D1.2	M. Stoffel, F. Beuschlein, A. Hall, C. Wolfrum

### ►► Examination Block B

Number	Title	Type	ECTS	Hours				Lecturers
402-0083-00L	<b>Physics I</b>	O	4 credits	3V+1U				
402-0083-00 V	Physik I			3 hrs	Wed Fri	15-16 10-12	HPH G1 HPH G1	K. S. Kirch
402-0083-00 U	Physik I			1 hrs	Wed	16-17	HCI D4 HCI H8.1 HCI J8 HIL C10.2 HIL D10.2 HIL F10.3 HIT F31.1 HIT F31.2 HIT H42 HIT H51 HIT J51 HIT K51 HIT K52 HPK D24.2	K. S. Kirch

### ►► Additional Courses 2nd Year

Number	Title	Type	ECTS	Hours				Lecturers
377-0311-00L	<b>Clinical Anatomy Lab</b> Only for Human Medicine BSc	O	5 credits	7P				
377-0311-00 P	Praktikum klinische Anatomie ■ Beginn der Lehrveranstaltung für die 1. Gruppe am 20.09.2021!  Unterricht gemäss Gruppeneinteilung! Ort: Präpariersäle I 42 G25/33 Universität Irchel  Anwesenheit wird vorausgesetzt!			92s hrs	Mon Tue Wed Thu 20.09.	08-12 08-12 08-12 08-12 08-12	UNI ZH. UNI ZH. UNI ZH. UNI ZH. UNI ZH.	J. Loffing, O. Ullrich, I. Amrein, G. Colacicco, N. Lier, further lecturers

### ►► Additional Courses 3rd Year

Number	Title	Type	ECTS	Hours				Lecturers
377-0503-01L	<b>Geriatrics</b> Only for Human Medicine BSc	O	1 credit	1V				
377-0503-01 V	Später Lebenszyklus ■ Findet vom 03.12. - 10.12.2021 statt.			1 hrs	Mon/2 Tue/2 Fri/2	14-18 14-18 12-16	IFW A36 ML F36 ML F36	M. Ristow, J. Goldhahn, R. W. Kressig, M. Martin, further lecturers
377-0503-02L	<b>Rheumatology</b> Only for Human Medicine BSc	O	2 credits	2V				
377-0503-02 V	Rheumatologie ■ Findet vom 13.12. - 21.12.2021 statt.			2 hrs	Mon/2 Tue/2 Fri/2	14-18 14-18 12-16	IFW A36 ML F36 ML F36	O. Distler, S. Blumhardt

377-0503-03L	Paediatrics Only for Human Medicine BSc	O	2 credits	2V					
377-0503-03 V	Früher Lebenszyklus ■ Findet von 16.11.2021 bis 30.11.2021 statt.  Anwesenheit Impfkurs wird vorausgesetzt.			2 hrs	Mon/2 Tue/2 Fri/2	14-18 14-18 12-16	IFW A36 ML F36 ML F36	M. Seiler, C. Berger, A. Möller, M. Wolff, further lecturers	
377-0511-00L	Emergency Medicine Only for Human Medicine BSc	O	2 credits	2P					
377-0511-00 P	Notfallmedizin ■ Blockwoche vom 20.09. - 24.09.2021 im Tessin  Ein Besuch wird auch bei Nichtbestehen von Prüfungsblöcken dringend empfohlen!			2 hrs				M. Guigli Poretti, M. Lepori	
377-0509-00L	Pathology Only for Human Medicine BSc	O	6 credits	6G					
377-0509-00 G	Allgemeine Pathologie ■ Blockkurs vom 27.09. - 01.10.2021 Findet online statt (s. Informationen dazu im Moodle). Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.			2 hrs	27.09.- 01.10.	08-18	HG D1.1	V. Kölzer, J. Loffing, H. Moch, N. Rupp, J. Rüschhoff, A. Sobottka-Brillout, further lecturers	
377-0509-10 G	Spezielle Pathologie ■ Findet online statt (s. Informationen dazu im Moodle). Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.			4 hrs	Wed	08-12	ML F36	V. Kölzer, T. Cerny, H. Moch	
377-0513-00L	Ethics and Legal Aspects and Communication Only for Human Medicine BSc	O	4 credits	2G					
377-0513-00 G	Ethik und Recht und Kommunikation ■ Beginn: Semesterwoche 3 (ab 8.10.2021) Anwesenheit bei den Skills Trainings wird vorausgesetzt (Termine s. Moodle)			2 hrs	Fri	08-10	NO C60	S. Goldhahn, T. Krones, B. Tag	
377-0515-00L	Patient Journeys Only for Human Medicine BSc	O	3 credits	3G					
377-0515-00 G	Interprofessionelle Versorgungsketten ■ Beginn: Semesterwoche 3 (ab 7.10.2021) Teilnahme an 3 externen Terminen obligatorisch!			3 hrs	Wed Thu 07.10.	14-16 14-17 14-17	ML F36 ML F36 HG F3	C. Schlegel, E. Kut Bacs, G. Mang, T. Moser, P. Schütz, D. Stämpfli	
377-0501-00L	Reproduction Only for Human Medicine BSc	O	4 credits	5V					
377-0501-00 V	Reproduktion ■ Findet vom 15.10. - 15.11.2021 statt.  100% Anwesenheit an den Skilltagen (s.Moodle, 11.11. und 12.11.2021) in Winterthur und Bern werden erwartet!			5 hrs	Mon Tue Fri	14-18 14-18 12-16	IFW A36 ML F36 ML F36	P. Imesch, G. Hasenberg, B. Leeners, C. Maake	
377-0517-00L	Oncology Only for Human Medicine BSc	O	2 credits	2V					
377-0517-00 V	Onkologie ■ Findet vom 04.10.-12.10.2021 statt.			2 hrs	Mon/1 Tue/1 Fri/1	14-18 14-18 12-16	IFW A36 ML F36 ML F36	A. Alimonti, A. Calcinotto, A. Fontecedro-Curioni, A. Stathis, J.-P. Theurillat	
377-0519-00L	Ultrasound Basics Only for Human Medicine BSc	O	1 credit	1P					
377-0519-00 P	Ultraschall-Grundkurs ■ Beginn: Semesterwoche 3 Wird extern durchgeführt.			1 hrs				M. Rominger	

## ► Courses in Medical Sciences

### ►► Core Courses 2nd Year

Number	Title	Type	ECTS	Hours				Lecturers
401-0683-00L	Statistics II	O	3 credits	2V+1U				
401-0683-00 V	Statistik II			2 hrs	Tue	13-15	I17 M5	D. Stekhoven
401-0683-00 U	Statistik II			1 hrs	Wed	17-18	HCI D4 HCI H8.1 HCI J8 HIT J51	D. Stekhoven
	Groups are selected in myStudies.							

### ►► Core Courses 3rd Year

Number	Title	Type	ECTS	Hours				Lecturers
252-0866-00L	Foundations of Computer Science for Human Medicine Only for Human Medicine BSc	O	2 credits	2G				
252-0866-00 G	Informatikgrundlagen für Humanmedizin ■ Die Vorlesung findet ab der 3. Semesterwoche statt. Vorlesung: Do 8-10 Abgabegespräche: Mo 14-16 oder Do 10-12			2 hrs	Mon Thu	14-16 08-10 10-12	CAB H56 HG D7.2 HG D7.2	H.-J. Böckenhauer, D. Komm

<b>377-0523-00L</b>	<b>Medical Technology I</b> <i>Only for Human Medicine BSc</i>	<b>O</b>	<b>3 credits</b>	<b>4G</b>						
377-0523-00 G	Medizintechnik I ■ <i>Beginn: Semesterwoche 3 (ab 4.10.2021)</i>			4 hrs	Mon	08-12	HG D7.2	<b>O. Lambercy</b>		
<b>►► Compensatory Courses</b>										
Number	Title	Type	ECTS	Hours						Lecturers
<b>376-0021-00L</b>	<b>Materials and Mechanics in Medicine</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>						
376-0021-00 G	Materials and Mechanics in Medicine <i>Groups are selected in myStudies. lecture: Di 14-16h exercises: Di 16-17h, start at the second week of the semester.</i>			3 hrs	Tue	14-16 16-17	HG F1 CHN G42 ETZ E8 HG D7.1 ML H41.1 ON LINE	<b>M. Zenobi-Wong,</b> J. G. Snedeker		
	<i>The lecturers will communicate the exact lesson times of the ONLINE-exercises.</i>									
<b>376-1103-00L</b>	<b>Frontiers in Nanotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>4V</b>						
376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri	10-12 14-16	HCP E47.3 HCP E47.3	<b>V. Vogel,</b> further lecturers		
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>						
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3	<b>K. Maniura,</b> M. Rottmar, M. Zenobi-Wong		
<b>376-1651-00L</b>	<b>Clinical and Movement Biomechanics</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>						
376-1651-00 G	Clinical and Movement Biomechanics			3 hrs	Wed	14-17	HIL E9	<b>N. Singh,</b> R. List, P. Schütz		
<b>535-0022-00L</b>	<b>Computer-Assisted Drug Design</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>						
535-0022-00 V	Computer-Assisted Drug Design			1 hrs	Mon/1	08-10	HCI D8	<b>S. Riniker,</b> G. Landrum		
<b>535-0250-00L</b>	<b>Biotransformation of Drugs and Xenobiotics</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>						
535-0250-00 V	Biotransformation of Drugs and Xenobiotics			1 hrs	Tue/1	08-10	HIL E7	<b>S.-D. Krämer</b>		
<b>535-0310-00L</b>	<b>Glycobiology in Drug Development</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>						
535-0310-00 V	Glycobiology in Drug Development			1 hrs	Wed/1	14-16	HIL E8	<b>V. I. Otto</b>		
<b>535-0423-00L</b>	<b>Drug Delivery and Drug Targeting</b>	<b>W</b>	<b>2 credits</b>	<b>1.5V</b>						
535-0423-00 V	Drug Delivery and Drug Targeting			1.5 hrs	Tue/1	13-16	HIL E9	<b>J.-C. Leroux,</b> A. Steinauer		
<b>551-0307-00L</b>	<b>Molecular and Structural Biology I: Protein Structure and Function</b> <i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>						
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function			2 hrs	Mon	14-16	HCI J7	<b>R. Glockshuber,</b> K. Locher, E. Weber-Ban		
<b>551-0309-00L</b>	<b>Concepts in Modern Genetics</b> <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO348 at UZH.</i>	<b>W</b>	<b>6 credits</b>	<b>4V</b>						
	<i>Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>									
551-0309-00 V	Concepts in Modern Genetics <b>**gemeinsam mit der Universität Zürich**</b>			4 hrs	Mon Tue	12-14 08-10	HG E5 I15 G60	<b>Y. Barral,</b> D. Bopp, A. Hajnal, O. Voinnet		
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>						
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7	<b>W.-D. Hardt,</b> L. Eberl, J. Piel, M. Pilhofer		
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>						
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3	<b>U. Kutay,</b> G. Neurohr, M. Peter, K. Weis, I. Zemp		
<b>701-2413-00L</b>	<b>Evolutionary Genetics</b>	<b>W</b>	<b>6 credits</b>	<b>4V</b>						
701-1413-00 V	Population and Quantitative Genetics			2 hrs	Mon	14-16	HG D7.2	<b>T. Städler,</b> J. Stapley		
701-1413-01 V	Ecological Genetics			2 hrs	Mon	10-12	ML F36	<b>A. Widmer,</b> S. Fior, M. C. Fischer		
<b>752-4009-00L</b>	<b>Molecular Biology of Foodborne Pathogens</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>						
752-4009-00 V	Molecular Biology of Foodborne Pathogens			2 hrs	Thu	10-12	HG E1.2	<b>M. Loessner,</b> M. Schmelcher, M. Schuppler, E. Wetter Slack		
<b>752-5103-00L</b>	<b>Functional Microorganisms in Foods</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>						
752-5103-00 G	Functional Microorganisms in Foods ■ <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG D7.1	<b>C. Lacroix,</b> A. Geirnaert, A. Greppi		

**Human Medicine Bachelor - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Computer Science (General Courses)

## ► Computer Science for Non-Computer Scientists

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>Z</b>	<b>4 credits</b>	<b>2V+1U</b>				
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	14-16	HG E5	<b>G. Fourny</b>
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE	<b>G. Fourny</b>
<b>252-0836-00L</b>	<b>Computer Science II</b>	<b>Z</b>	<b>4 credits</b>	<b>2V+2U</b>				
252-0836-00 V	Informatik II			2 hrs	Thu	10-12	HG E7	<b>M. Schwerhoff,</b> F. O. Friedrich Wicker
252-0836-00 U	Informatik II			2 hrs	Fri	16-18	CHN D42 CHN D44 CHN D46 CHN D48 LFW B3 LFW C1 LFW C11 LFW E13	<b>M. Schwerhoff,</b> F. O. Friedrich Wicker
<b>252-0839-00L</b>	<b>Informatics</b>	<b>Z</b>	<b>2 credits</b>	<b>2G</b>				
252-0839-00 G	Einsatz von Informatikmitteln <i>Vorlesung: Fr 14-16 Uhr Individuelle Präsentation Projektaufgaben: restliche Zeiten alle 2 Wochen nach Voranmeldung</i>			2 hrs	Mon	18-19	HG E19 HG E26.3 HG E27	<b>L. E. Fässler, M. Dahinden</b>
					Thu	18-19	HG E19 HG E26.1 HG E26.3 HG E27	
					Fri	14-16 16-18	HG F7 HG E19 HG E26.1 HG E26.3 HG E27	
<b>252-0845-00L</b>	<b>Computer Science I</b>	<b>Z</b>	<b>5 credits</b>	<b>2V+2U</b>				
252-0845-00 V	Informatik I			2 hrs	Mon	12-14	HG F1	<b>C. Cotrini Jimenez, R. Sasse</b>
252-0845-00 U	Informatik I <i>Groups are selected in myStudies.</i>			2 hrs	Thu	14-16	ETZ J91 HG E33.1 IFW C33 LFW C5 ON LINE	<b>C. Cotrini Jimenez, R. Sasse</b>
						16-18	CHN D46 ETZ G91 ETZ J91 HG E33.1 ON LINE	
<b>252-0847-00L</b>	<b>Computer Science</b>	<b>Z</b>	<b>5 credits</b>	<b>2V+2U</b>				
252-0847-00 V	Informatik <i>Vorlesung im HG F7 mit Videoübertragung ins HG F5.</i>			2 hrs	Tue	14-16	HG F5 HG F7	<b>R. Sasse,</b> F. O. Friedrich Wicker
252-0847-00 U	Informatik <i>Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>			2 hrs	Tue	16-18	CAB G59 CHN D48 CHN E42 HG E21 HG E33.1 HG E33.5 HG F26.5 LFW C4	<b>R. Sasse,</b> F. O. Friedrich Wicker
					Wed	10-12	CHN G46 HG D3.1 HG D3.3 HG D5.1 HG D5.3 HG E21 HG E33.5 HG G26.1 HG G26.3 LFW E41 LFW E13 ML H41.1 ML H34.3	
<b>252-0851-00L</b>	<b>Algorithms and Complexity</b>	<b>Z</b>	<b>4 credits</b>	<b>2V+1U</b>				
252-0851-00 V	Algorithmen und Komplexität			2 hrs	Tue	08-10	HG D1.2	<b>J. Lengler, A. Steger</b>

252-0851-00 U	Algorithmen und Komplexität <i>Groups are selected in myStudies.</i>		1 hrs	Wed	12-13	CHN D44 CHN D46 CHN E42	J. Lengler, A. Steger
					13-14	CHN D44 CHN D46 CHN E42	
<b>252-0852-00L</b>	<b>Foundations of Computer Science</b>	<b>Z</b>	<b>4 credits</b>	<b>2V+2U</b>			
252-0852-00 V	Grundlagen der Informatik <i>Vorlesung im HG F1 mit Videoübertragung ins HG F3.</i>		2 hrs	Mon	14-16	HG F1 HG F3	L. E. Fässler, M. Dahinden
252-0852-00 U	Grundlagen der Informatik <i>Es gibt keine fixen Übungsgruppen. Stattdessen besprechen die Studierenden alle 2 Wochen eine Projektaufgabe individuell mit einer Assistenzperson. Die restlichen Zeiten stehen für die Bearbeitung der Projektaufgaben zur Verfügung.</i>		2 hrs	Mon	10-12	CAB H56 CAB H57 HG E26.1 HG E26.3 HG E27	L. E. Fässler, M. Dahinden
					16-18	CAB H56 CAB H57 HG E19 HG E26.1 HG E26.3	
				Wed	18-19	HG E19 HG E26.1 HG E26.3	
				Fri	16-18	HG E27 HG D12	
<b>252-0855-00L</b>	<b>Computer Science in Secondary School Mathematics</b>	<b>Z</b>	<b>4 credits</b>	<b>3G</b>			
252-0855-00 G	Informatik im gymnasialen Mathematikunterricht ■ <i>Permission from lecturers required for all students</i>		3 hrs	Wed	10-13	CAB G57	J. Hromkovic, G. Serafini
<b>252-0856-00L</b>	<b>Computer Science</b>	<b>Z</b>	<b>4 credits</b>	<b>2V+2U</b>			
252-0856-00 V	Informatik		2 hrs	Mon	08-10 22.09.	ML E12 HG D1.2	F. O. Friedrich Wicker, R. Sasse
252-0856-00 U	Informatik <i>Übungen finden ab der zweiten Semesterwoche statt.</i>		2 hrs	Tue	14-16	HIT K51 HIT K52	F. O. Friedrich Wicker, R. Sasse
				Wed	10-12	CAB G56 LFW B3	

#### ► Generally Accessible Seminars and Colloquia

Number	Title	Type	ECTS	Hours				Lecturers
<b>251-0100-00L</b>	<b>Computer Science Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>2K</b>				
251-0100-00 K	Kolloquium für Informatik			2 hrs	Mon	16-18	CAB G61	Lecturers
<b>401-5960-00L</b>	<b>Colloquium on Mathematics, Computer Science, and Education</b>	<b>E-</b>	<b>0 credits</b>					
	<i>Subject didactics for mathematics and computer science teachers.</i>							
401-5960-00 K	Kolloquium über Mathematik, Informatik und Unterricht <i>Programm: <a href="https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html">https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html</a></i>			4s hrs				N. Hungerbühler, M. Akveld, D. Grawehr Morath, J. Hromkovic, P. Spindler

#### Computer Science (General Courses) - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Computer Science Bachelor

## ► First Year Examinations

### ►► First Year Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0131-00L</b>	<b>Linear Algebra</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>				
401-0131-00 V	Lineare Algebra <i>Vorlesung im HG F7 mit Videoübertragung ins HG F5.</i>			4 hrs	Wed	10-12	HG F5 HG F7	<b>Ö. Imamoglu, O. Sorkine Hornung</b>
					Fri	10-12	HG F5 HG F7	
401-0131-00 U	Lineare Algebra <i>Groups are selected in myStudies. Do 8-10, Do 16-18 oder Fr 14-16 gemäss Gruppeneinteilung</i>			2 hrs	Thu	08-10	CAB G56 CAB G57 CHN C14 CHN D42 CHN D46 IFW A32.1 IFW B42 ML F34 ML J37.1 RZ F21	<b>Ö. Imamoglu, O. Sorkine Hornung</b>
						16-18	CHN D42 CHN D44 ETZ E9 ETZ H91 LFW C11	
					Fri	14-16	CHN G46 ETZ E7 IFW A34 IFW C31 IFW D42 LFW C11	
<b>252-0025-01L</b>	<b>Discrete Mathematics</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>				
252-0025-01 V	Diskrete Mathematik <i>Findet im ETA F 5 mit Videoübertragung im ETF E 1 statt.</i>			4 hrs	Mon	14-16	ETA F5 ETF E1	<b>U. Maurer</b>
					Wed	14-16	ETA F5 ETF E1	
252-0025-01 U	Diskrete Mathematik <i>Groups are selected in myStudies. Keine Übungsstunden in der ersten Semesterwoche.</i>			2 hrs	Mon	16-18	CAB G52 CAB G56 CAB G57 CHN D42 CHN D44 CHN D46 CHN D48 CHN E42 ETZ F91 ETZ G91 ETZ H91 ETZ K91 HG F26.5 LFW B3 LFW E13	<b>U. Maurer</b>
						14-16	CAB G57 CHN D46 CHN G22 HG E21 HG E33.5 HG G26.5 IFW A34 IFW C31 LFW E13 NO E11 NO E39	
<b>252-0027-00L</b>	<b>Introduction to Programming</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>				
252-0027-00 V	Einführung in die Programmierung <i>Vorlesung im ML D28 mit Videoübertragung ins ML E12.</i>			4 hrs	Tue	10-12	ML D28 ML E12	<b>T. Gross</b>
					Fri	08-10	ML D28 ML E12	

252-0027-00 U	Einführung in die Programmierung Groups are selected in myStudies. Donnerstag 8-10 Übungsgruppe nur für Studierende Interdisziplinäre Naturwissenschaften.  Die genauen Unterrichtszeiten von ONLINE - Veranstaltungen werden von den Dozierenden kommuniziert.	2 hrs	Wed	08-10	CAB G56 CAB G59 CHN D42 CHN D44 CHN D46 CHN G46 CLA E4 ETZ F91 ETZ G91 ETZ H91 ETZ J91 ETZ K91 HG D3.1 HG D3.3 HG D5.1 HG D5.3 HG F26.5 HG G26.5 LFW B3 LFW C11 ML J37.1 ON LINE ON LINE ON LINE ON LINE HPL D32	T. Gross		
					Thu	08-10		
252-0026-00L	Algorithms and Data Structures	O	7 credits	3V+2U+1A				
252-0026-00 V	Algorithmen und Datenstrukturen Donnerstag 10-12 Vorlesung im HG F7 mit Videoübertragung ins HG F5. Donnerstag 14-15 Vorlesung im ETA F 5 mit Videoübertragung ins ETF E 1.		3 hrs	Thu	10-12	HG F5 HG F7	M. Püschel, D. Steurer	
					14-15	ETA F5 ETF E1		
252-0026-00 U	Algorithmen und Datenstrukturen plus jeweils eine Stunde Nachbearbeitungszeit (montags 11-12)		2 hrs	Mon	09-11	CAB G59 CAB H53 CHN D42 CHN D44 CHN D46 CHN D48 CHN F42 CHN G22 ETZ F91 ETZ H91 ETZ J91 ETZ K91 HG D3.3 HG D5.1 IFW A34 IFW B42 IFW C31 IFW C33 IFW D42 LEE C104 LEE C114 LFW C1 ML J37.1 ON LINE	M. Püschel, D. Steurer	
252-0026-00 A	Algorithmen und Datenstrukturen		1 hrs				M. Püschel, D. Steurer	

## ►► First Year Examination Block 2

*Offered in the spring semester.*

### ► Basic Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>252-0057-00L</b>	<b>Theoretical Computer Science</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>					
252-0057-00 V	Theoretische Informatik			4 hrs	Tue	08-10	HG E7	<b>J. Hromkovic, H.- J. Böckenhauer</b>	
					Fri	08-10	HG E7		
252-0057-00 U	Theoretische Informatik			2 hrs	Tue	14-16	CAB G52 CAB G59 HG E22 LFW C4 ML J37.1	<b>J. Hromkovic, H.- J. Böckenhauer</b>	
					Wed	16-18	CAB G52 CAB G57 CAB G59 CHN D48 ETZ E7 ETZ G91		
					Thu	16-18	HG D3.3 HG D5.1 HG D5.3 HG E33.5 HG F26.5		
<b>252-0061-00L</b>	<b>Systems Programming and Computer Architecture</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>					



252-0061-00 V	Systems Programming and Computer Architecture		4 hrs	Tue	10-12	HG E7	<b>T. Roscoe</b> , A. Klimovic
				Wed	10-12	NO C60	
252-0061-00 U	Systems Programming and Computer Architecture <i>Groups are selected in myStudies. The lecturers will communicate the exact lesson times of ONLINE courses.</i>		2 hrs	Wed	12-14	CAB G56 CAB G59 CHN D48 CHN G46 ETZ G91 CHN D42 CHN G22 ETZ G91 ETZ J91 ETZ K91 HG G26.3 LEE D105 ML H34.3 ON LINE	<b>T. Roscoe</b> , A. Klimovic
					14-16		
<b>401-0213-16L</b>	<b>Analysis II</b>	<b>O</b>	<b>5 credits</b>	<b>2V+2U</b>			
401-0213-16 V	Analysis II <i>Am 23.09.21 findet die Vorlesung ausnahmsweise im HG F 7 statt.</i>		2 hrs	Thu	14-16	HG E7 HG F7	<b>M. Burger</b>
				23.09.	14-16		
401-0213-16 U	Analysis II <i>Groups are selected in myStudies. Mo 10-12 oder Mo 14-16</i>		2 hrs	Mon	10-12	CHN E42 CHN G46 ETZ E7 HG G26.1 LFW C11 ML F38 NO C44 CHN G46 HG G26.5 IFW A34 LFW C1 ML F34 NO C44	<b>M. Burger</b>
					14-16		
<b>401-0663-00L</b>	<b>Numerical Methods for Computer Science</b>	<b>O</b>	<b>7 credits</b>	<b>2V+2U+2P</b>			
401-0663-00 V	Numerical Methods for Computer Science <i>This course is designed in a flipped classroom format based on video tutorials and supplemented by a weekly question-and-answer session, for which attendance is highly recommended.</i>		2 hrs	Thu	10-12	HG F1	<b>R. Hiptmair</b>
401-0663-00 U	Numerical Methods for Computer Science <i>Groups are selected in myStudies. Mon 10-12 or Mon 14-16 according to exercise group allocation.</i>		2 hrs	Mon	10-12	CLA E4 LFW E13 ML H41.1 ML J34.1 ML J34.3 HG E33.3 LEE D105 LFW B3 LFW C5 ML F40	<b>R. Hiptmair</b>
					14-16		
401-0663-00 P	Numerical Methods for Computer Science <i>Self-study based on video tutorial and lecture notes.</i>		2 hrs				<b>R. Hiptmair</b>

## ► Core Courses

### ►► Major: Information and Data Processing

Number	Title	Type	ECTS	Hours				Lecturers
252-0206-00L	Visual Computing	O	8 credits	4V+3U				
252-0206-00 V	Visual Computing			4 hrs	Tue	10-12	HG G3	S. Coros, M. Pollefeys
					Thu	14-16	HG G3	
252-0206-00 U	Visual Computing			3 hrs	Tue	13-16	CHN G42	S. Coros, M. Pollefeys
					Thu	09-12	IFW A36	

### ►► Major: Theoretical Computer Science

Number	Title	Type	ECTS	Hours				Lecturers
252-0209-00L	Algorithms, Probability, and Computing	O	8 credits	4V+2U+1A				
252-0209-00 V	Algorithms, Probability, and Computing			4 hrs	Mon Tue	14-16 14-16	ML D28 ML D28	B. Gärtner, M. Ghaffari, R. Kyng, A. Steger, D. Steurer
252-0209-00 U	Algorithms, Probability, and Computing			2 hrs	Wed	14-16 16-18	CAB G56 CAB G57 CAB G56	B. Gärtner, M. Ghaffari, R. Kyng, A. Steger, D. Steurer
252-0209-00 A	Algorithms, Probability, and Computing <i>Project Work, no fixed presence required.</i>			1 hrs				B. Gärtner, M. Ghaffari, R. Kyng, A. Steger, D. Steurer

### ►► Major: Systems and Software Engineering

Number	Title	Type	ECTS	Hours	Lecturers
<b>252-0210-00L</b>	<b>Compiler Design</b>	<b>O</b>	<b>8 credits</b>	<b>4V+3U</b>	

252-0210-00 V	Compiler Design <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		4 hrs	Wed Thu	14-16 16-18	ML H44 ML H44	<b>Z. Su</b>
252-0210-00 U	Compiler Design <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		3 hrs	Mon	16-19	HG G3	<b>Z. Su</b>
<b>252-0217-00L</b>	<b>Computer Systems</b>	<b>O</b>	<b>8 credits</b>	<b>4V+2U+1A</b>			
252-0217-00 V	Computer Systems		4 hrs	Mon Fri	10-12 10-12	CAB G61 CAB G61	<b>T. Roscoe, S. Shinde, R. Wattenhofer</b>
252-0217-00 U	Computer Systems <i>Groups are selected in myStudies.</i>		2 hrs	Fri	14-16	CHN D42 CHN D48 ETZ G91 ETZ H91 HG D3.1 HG D5.3	<b>T. Roscoe, S. Shinde, R. Wattenhofer</b>
252-0217-00 A	Computer Systems		1 hrs				<b>T. Roscoe, S. Shinde, R. Wattenhofer</b>

## ► Electives

*Students may also choose courses from the Master's program in Computer Science. It is their responsibility to make sure that they meet the requirements and conditions for these courses.*

Number	Title	Type	ECTS	Hours			Lecturers
<b>252-0293-00L</b>	<b>Wireless Networking and Mobile Computing</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>			
252-0293-00 V	Wireless Networking and Mobile Computing		2 hrs	Mon	16-18	HG E5	<b>S. Mangold</b>
252-0293-00 U	Wireless Networking and Mobile Computing		1 hrs	Mon	18-19	HG E5	<b>S. Mangold</b>
<b>252-3110-00L</b>	<b>Human Computer Interaction</b> <i>Number of participants limited to 150.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>			
252-3110-00 V	Human Computer Interaction		2 hrs	Wed	14-16	HG D7.2	<b>O. Hilliges, C. Holz</b>
252-3110-00 U	Human Computer Interaction		1 hrs	Thu	12-13	CAB G56 CHN F46 LFW B3	<b>O. Hilliges, C. Holz</b>
252-3110-00 A	Human Computer Interaction		2 hrs				<b>O. Hilliges, C. Holz</b>
<b>151-0107-20L</b>	<b>High Performance Computing for Science and Engineering (HPCSE) I</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>			
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h Exercises: 14-16h</i>		4 hrs	Fri	12-14 14-16	ML H44 ML H44	<b>P. Koumoutsakos, S. M. Martin</b>
<b>227-0124-00L</b>	<b>Embedded Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0124-00 G	Embedded Systems <i>Exercises in groups.</i>		4 hrs	Mon Wed Fri	14-16 16-18 16-18	ETF C1 ETZ D61.1 ETZ D96.1 ETF E1 ETZ D61.1 ETZ D96.1	<b>L. Thiele, M. Magno</b>
<b>227-1037-00L</b>	<b>Introduction to Neuroinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1A</b>			
227-1037-00 V	Introduction to Neuroinformatics		2 hrs	Thu	08-10	NO C60	<b>V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens</b>
227-1037-00 U	Introduction to Neuroinformatics		1 hrs	Thu	10-11	NO C60	<b>V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens</b>
227-1037-00 A	Introduction to Neuroinformatics <i>Self-study, no fixed presence required.</i>		1 hrs				<b>V. Mante</b>
<b>402-0209-00L</b>	<b>Quantum Physics for Non-Physicists</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>			
402-0209-00 V	Quantum Physics for Non-Physicists		3 hrs	Tue Thu	10-12 12-13	ML H44 ML F36	<b>L. Pacheco Cañamero B. del Rio</b>
402-0209-00 U	Quantum Physics for Non-Physicists		2 hrs	Thu	10-12	ML F36	<b>L. Pacheco Cañamero B. del Rio</b>

## ► Seminar

Number	Title	Type	ECTS	Hours			Lecturers
<b>252-2300-00L</b>	<b>Dependency Structures and Lexicalized Grammars</b> <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
	<i>Number of participants limited to 25.</i>						
252-2300-00 S	Dependency Structures and Lexicalized Grammars		2 hrs	Tue	16-18	CHN D46	<b>R. Cotterell</b>
<b>252-2600-05L</b>	<b>Software Engineering Seminar</b> <i>Number of participants limited to 22.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			

*The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.*

252-2600-05 S	Software Engineering Seminar <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>		2 hrs	Wed	16-18	CHN D42	<b>Z. Su, M. Vechev</b>
<b>252-3400-00L</b>	<b>Seminar on Machine Learning Systems</b> <i>Number of participants limited to 40. The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
252-3400-00 S	Seminar on Machine Learning Systems		2 hrs	Wed	14-16	CAB H52	<b>A. Klimovic, C. Zhang</b>
<b>252-3811-00L</b>	<b>Case Studies from Practice Seminar</b> <i>Number of participants limited to 24. The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>			
252-3811-00 S	Case Studies from Practice Seminar		2 hrs	21.09. 28.09. 05.10. 12.10.	16-18 16-18 16-18 16-18	CAB H52 CAB H52 CAB H52 CAB H52	<b>M. Brandis</b>
<b>252-4811-00L</b>	<b>Machine Learning Seminar</b> <i>Number of participants limited to 24. The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
252-4811-00 S	Machine Learning Seminar <i>Kick-off Meeting: September 29, 2021; 11-13; HG E23</i>  <i>Saturday sessions: November 13/20/27, 2021; from 8:30 to 13:30; room tba</i>		2 hrs				<b>V. Boeva, G. Rättsch</b>
<b>252-5707-00L</b>	<b>Seminar on Media Innovation</b> <i>Number of participants limited to 24. The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
252-5707-00 S	Seminar on Media Innovation		2 hrs	Tue	14-16	CHN F46	<b>S. Kalloori Saikishore, S. Klingler</b>
<b>227-2211-00L</b>	<b>Seminar in Computer Architecture</b> <i>Number of participants limited to 28. The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
227-2211-00 S	Seminar in Computer Architecture <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>		2 hrs	Thu	16-18	HG D3.2	<b>O. Mutlu, M. H. K. Alser, J. Gómez Luna</b>

## ► Minor Courses

### ►► 3. Semester

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0945-00L</b>	<b>Cell and Molecular Biology for Engineers I</b> <i>This course is part I of a two-semester course.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
227-0945-00 G	Cell and Molecular Biology for Engineers I			2 hrs	Thu	10-12	LFW C5	<b>C. Frei</b>
<b>351-0778-00L</b>	<b>Discovering Management</b> <i>Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercises) 351-0778-01.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				

351-0778-00 G	Discovering Management <i>Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Fri	08-11	HG E1.1	<b>B. Clarysse</b> , S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe
<b>351-0778-01L</b>	<b>Discovering Management (Exercises)</b> <i>Complementary exercises for the module Discovering Management.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>				
	<i>Prerequisite: Participation and successful completion of the module Discovering Management (351-0778-00L) is mandatory.</i>							
351-0778-01 U	Discovering Management (Exercises)			1 hrs	Fri	11-12	HG E1.1	<b>B. Clarysse</b> , L. P. T. Vandeweghe
<b>376-1177-00L</b>	<b>Human Factors I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-1177-00 V	Human Factors I			2 hrs	Tue	14-16	HG G3	<b>M. Menozzi Jäckli</b> , R. Huang, M. Siegrist
<b>401-7855-00L</b>	<b>Computational Astrophysics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST245</i>	<b>W</b>	<b>6 credits</b>	<b>2V</b>				
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>							
401-7855-00 V	Computational Astrophysics (University of Zurich) <i>**Course at University of Zurich**</i>			2 hrs	Tue	12-14	UNI ZH.	<b>L. M. Mayer</b>
<b>402-1701-00L</b>	<b>Physics I</b>	<b>W</b>	<b>7 credits</b>	<b>4V+2U</b>				
402-1701-00 V	Physik I <i>Findet im HPH G1 statt mit Videoübertragung Di 10-12 ins HCI G7 und Do 14-16 ins HCI J7</i>			4 hrs	Tue	10-12	HCI G7 HPH G1	<b>K. Ensslin</b>
					Thu	14-16	HCI J7 HPH G1	
402-1701-00 U	Physik I <i>Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>			2 hrs	Thu	12-14	HCI D4 HCI D6 HCI E2 HCI E8 HCI F2 HCI J8 HCP E47.3 HCP E47.4 HIL B21 HIL D10.2 HIL D60.1 HIL E10.1 HIL E5 HIL F10.3 HIT F31.2 HIT F32 HIT H42 HIT J51 HIT J53 HIT K51 HIT K52 HPK D24.2 HPK D3 HPL D34 HPT C103	<b>K. Ensslin</b>
<b>651-4271-00L</b>	<b>Data Analysis and Visualisation with Matlab in Earth Sciences</b> <i>Information for D-INFK students: the course is only for 3rd semester BSc students.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
651-4271-00 G	Erdwissenschaftliche Datenanalyse und Visualisierung mit Matlab			3 hrs	Mon	13-14	HG E26.1 HG E26.3	<b>G. De Souza</b> , A. Obermann, S. Wiemer
					Wed	08-09 09-10	HG D5.2 HG D12 HG E27	
<b>701-0071-00L</b>	<b>Mathematics III: Systems Analysis</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
701-0071-00 V	Mathematik III: Systemanalyse			2 hrs	Fri	10-12	ML D28	<b>R. Knutti</b> , S. Schemm, H. Wernli
701-0071-00 U	Mathematik III: Systemanalyse			1 hrs	Mon	11-12	CAB G57 CHN F46 HG E33.3 HG F26.5 HG G26.3 LEE D101 LEE D105 LEE E101 ML E12 ML F34 NO E11 NO E39	<b>L. Brunner</b> , S. Schemm, P. Zschenderlein

## ►► 5. Semester

Number	Title	Type	ECTS	Hours					Lecturers
<b>101-0250-00L</b>	<b>Solving Partial Differential Equations in parallel on GPUs</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
101-0250-00 G	Solving Partial Differential Equations in parallel on GPUs			3 hrs	Tue	13-16	HCI E8		<b>L. Räss, S. Omlin, M. Werder</b>
<b>102-0227-00L</b>	<b>Systems Analysis and Mathematical Modeling in Urban Water Management</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
102-0227-00 G	Systems Analysis and Mathematical Modeling in Urban Water Management			4 hrs	Fri	08-10 10-12	HIL E9 HIL E15.2		<b>E. Morgenroth, M. Maurer</b>
<b>151-0573-00L</b>	<b>System Modeling</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0573-00 V	System Modeling			2 hrs	Wed	08-10	HG E7		<b>L. Guzzella</b>
151-0573-00 U	System Modeling <i>Groups are selected in myStudies. Die Übungen finden ab der zweiten Semesterwoche statt. Di 13-14, Di 17-18 oder Do 8-9 gemäss Gruppeneinteilung.</i>			1 hrs	Tue	13-14	LFV E41 LFW C5 CHN G42 HG D7.1 HG E1.1 LFV E41		<b>L. Guzzella</b>
<b>151-0575-01L</b>	<b>Signals and Systems</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0575-01 V	Signals and Systems <i>The lecture will start in the 2nd week of the Semester.</i>			2 hrs	Thu	14-16	ETF C1		<b>A. Carron</b>
151-0575-01 U	Signals and Systems <i>The exercise will start in the 3rd week of the Semester.</i>			2 hrs	Thu	16-18	ETF C1		<b>A. Carron</b>
<b>151-0591-00L</b>	<b>Control Systems I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0591-00 V	Regelungstechnik I <i>Vorlesung im HG E 7 mit Videoübertragung ins HG E 5.</i>			2 hrs	Fri	10-12	HG E5 HG E7		<b>L. Guzzella</b>
151-0591-00 U	Regelungstechnik I <i>Groups are selected in myStudies. Die Übungen starten in der 2. Woche des Semesters.  Zusätzlich wird das Study Center angeboten: ab der 3. Semesterwoche, Montags, 18-20 Uhr im HG E 1.1 und Mittwochs, 18-20 Uhr im HG E 1.1, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>			2 hrs	Fri	14-16	CHN D44 CHN D46 CHN F46 CHN G42 ETZ E9 ETZ J91 ETZ K91 HG D3.2 HG D5.1 HG E21 HG G26.3 IFW B42 LEE D105 LFW C4 ML F34 ML F39 ML J34.3 ML J37.1 NO E11 NO E39		<b>L. Guzzella</b>
<b>151-0601-00L</b>	<b>Theory of Robotics and Mechatronics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	08-10 10-11	HG D1.2 ML E12		<b>P. Korba, S. Stoeter</b>
<b>151-0709-00L</b>	<b>Stochastic Methods for Engineers and Natural Scientists</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
151-0709-00 G	Stochastic Methods for Engineers and Natural Scientists <i>Lecture: 10-12 Exercises: 12-14</i>			4 hrs	Wed	10-14	NO C6		<b>D. W. Meyer-Masseti</b>
<b>227-0076-00L</b>	<b>Electrical Engineering II</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
227-0076-00 V	Elektrotechnik II			2 hrs	Wed	10-12	HG E5		<b>C. Studer</b>
227-0076-00 U	Elektrotechnik II <i>Groups are selected in myStudies.</i>			2 hrs	Wed	16-18	CLA E4 HG D3.1 HG D5.1 CAB G52 LEE C104 LEE C114 LEE D101 LEE D105		<b>C. Studer</b>
<b>227-0116-00L</b>	<b>VLSI 1: HDL based design for FPGAs</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0116-00 G	VLSI 1: HDL based design for FPGAs			5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1		<b>F. K. Gürkaynak, L. Benini</b>
<b>227-0731-00L</b>	<b>Power Market I - Portfolio and Risk Management</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0731-00 G	Power Market I - Portfolio and Risk Management			4 hrs	Tue	08-12	HG D7.1		<b>D. Reichelt, G. A. Koepfel</b>
<b>227-0945-00L</b>	<b>Cell and Molecular Biology for Engineers I</b> <i>This course is part I of a two-semester course.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					

227-0945-00 G	Cell and Molecular Biology for Engineers I			2 hrs	Thu	10-12	LFW C5	<b>C. Frei</b>
<b>227-2037-00L</b>	<b>Physical Modelling and Simulation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-2037-00 G	Physical Modelling and Simulation			4 hrs	Thu	08-12	ETZ E6	<b>J. Smajic</b>
<b>351-0778-00L</b>	<b>Discovering Management</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
	Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercises) 351-0778-01.							
351-0778-00 G	Discovering Management Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.			3 hrs	Fri	08-11	HG E1.1	<b>B. Clarysse</b> , S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe
<b>351-0778-01L</b>	<b>Discovering Management (Exercises)</b>	<b>W</b>	<b>1 credit</b>	<b>1U</b>				
	Complementary exercises for the module Discovering Management.  Prerequisite: Participation and successful completion of the module Discovering Management (351-0778-00L) is mandatory.							
351-0778-01 U	Discovering Management (Exercises)			1 hrs	Fri	11-12	HG E1.1	<b>B. Clarysse</b> , L. P. T. Vandeweghe
<b>363-0541-00L</b>	<b>Systems Dynamics and Complexity</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
363-0541-00 G	Systems Dynamics and Complexity Lecture: Thursday, 08-10 h Exercises: Tuesday, 12-13 h The lecture takes place in classroom, online via livestreaming or zoom and recorded.			3 hrs	Tue Thu	12-13 08-10	HG D1.2 HG D1.2	<b>F. Schweitzer</b>
<b>363-1082-00L</b>	<b>Enabling Entrepreneurship: From Science to Startup</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
	Students should provide a brief overview (unto 1 page) of their business ideas that they would like to commercialise through the course. If they do not have an idea, they are required to provide a motivation letter stating why they would like to do this elective. If you are unsure about the readiness of your idea or technology to be converted into a startup, please drop me a line to schedule a call or meeting to discuss.  The total number of students will be limited to 40. It is preferable that the students already form teams of at least two persons, where both the team-members would like to do the course. The names of the team-members should be provided together with the business idea or the motivation letter submitted by the students.  The students should submit the necessary information until September 13 and apply to anilsethi@ethz.ch							
363-1082-00 V	Enabling Entrepreneurship: From Science to Startup			2 hrs	Mon	16-18	HG E33.1	<b>A. Sethi</b>
<b>363-1109-00L</b>	<b>Introduction to Microeconomics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
	GESS (Science in Perspective): This course is only for students enrolled in a Bachelor's degree programme.  Students enrolled in a Master's degree programme may attend "Principles of Microeconomics" (LE 363-0503-00L) instead.  Note for D-MAVT students: If you have already successfully completed "Principles of Microeconomics" (LE 363-0503-00L), then you will not be permitted to attend it again.							
363-1109-00 G	Einführung in die Mikroökonomie Zusätzliche (freiwillige) Termine für Übungen zur Vorlesung werden zu Beginn der Vorlesung bekanntgegeben.			2 hrs	Tue	10-12	HG E5	<b>M. Wörter</b> , M. Beck
<b>376-1177-00L</b>	<b>Human Factors I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-1177-00 V	Human Factors I			2 hrs	Tue	14-16	HG G3	<b>M. Menozzi Jäckli</b> , R. Huang, M. Siegrist
<b>401-0353-00L</b>	<b>Analysis 3</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
401-0353-00 V	Analysis 3			2 hrs	Mon	08-10	HG G3	<b>M. Iacobelli</b>

401-0353-00 U	Analysis 3 <i>Groups are selected in myStudies. Exercises start in the second week of the semester. Es wird auch mindestens eine Übungsgruppe auf Deutsch angeboten.</i>	2 hrs	Fri	10-12	CAB G56 CLA E4 ETZ E7 ETZ J91 ETZ K91 LEE C114 LFV E41 LFW B3	<b>M. Iacobelli</b>
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>		
401-0625-01 V	Applied Analysis of Variance and Experimental Design	2 hrs	Mon	14-16	HG G5	<b>L. Meier</b>
401-0625-01 U	Applied Analysis of Variance and Experimental Design	1 hrs	Mon/2w	16-18	HG E1.1	<b>L. Meier</b>
<b>401-4623-00L</b>	<b>Time Series Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>		
401-4623-00 G	Time Series Analysis <i>Does not take place this semester.</i>	3 hrs				<b>F. Balabdaoui</b>
<b>401-7855-00L</b>	<b>Computational Astrophysics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST245</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>2V</b>		
401-7855-00 V	Computational Astrophysics (University of Zurich) <i>**Course at University of Zurich**</i>	2 hrs	Tue	12-14	UNI ZH.	<b>L. M. Mayer</b>
<b>402-0809-00L</b>	<b>Introduction to Computational Physics</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U</b>		
402-0809-00 V	Introduction to Computational Physics	2 hrs	Tue	10-12	HCI J7	<b>A. Adelmann</b>
402-0809-00 U	Introduction to Computational Physics	2 hrs	Tue	08-10	HCI J7	<b>A. Adelmann</b>
<b>402-1701-00L</b>	<b>Physics I</b>	<b>W</b>	<b>7 credits</b>	<b>4V+2U</b>		
402-1701-00 V	Physik I <i>Findet im HPH G1 statt mit Videoübertragung Di 10-12 ins HCI G7 und Do 14-16 ins HCI J7</i>	4 hrs	Tue	10-12	HCI G7 HPH G1	<b>K. Ensslin</b>
			Thu	14-16	HCI J7 HPH G1	
402-1701-00 U	Physik I <i>Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>	2 hrs	Thu	12-14	HCI D4 HCI D6 HCI E2 HCI E8 HCI F2 HCI J8 HCP E47.3 HCP E47.4 HIL B21 HIL D10.2 HIL D60.1 HIL E10.1 HIL E5 HIL F10.3 HIT F31.2 HIT F32 HIT H42 HIT J51 HIT J53 HIT K51 HIT K52 HPK D24.2 HPK D3 HPL D34 HPT C103	<b>K. Ensslin</b>
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>		
636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>	3 hrs	Wed	14-17	HG D3.2	<b>J. Stelling</b>
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>	2 hrs	Fri	10-12	HG D1.2	<b>J. Stelling</b>
<b>651-4241-00L</b>	<b>Numerical Modelling I and II: Theory and Applications</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
651-4241-00 G	Numerical Modeling I: Theory	24s hrs	Mon/1	08-12	NO F39	<b>T. Gerya</b>
651-4241-01 G	Numerical Modeling II: Applications	28s hrs	Mon/2	08-12	NO F39	<b>T. Gerya</b>
<b>701-0071-00L</b>	<b>Mathematics III: Systems Analysis</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
701-0071-00 V	Mathematik III: Systemanalyse	2 hrs	Fri	10-12	ML D28	<b>R. Knutti, S. Schemm, H. Wernli</b>

701-0071-00 U	Mathematik III: Systemanalyse	1 hrs	Mon	11-12	CAB G57 CHN F46 HG E33.3 HG F26.5 HG G26.3 LEE D101 LEE D105 LEE E101 ML E12 ML F34 NO E11 NO E39	<b>L. Brunner</b> , S. Schemm, P. Zschenderlein
---------------	-------------------------------	-------	-----	-------	------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------

<b>701-0901-00L</b>	<b>ETH Week 2021: Health for Tomorrow</b>	<b>W</b>	<b>1 credit</b>	<b>3S</b>		
	<i>All ETH Bachelor's, Master's and exchange students can take part in the ETH week. No prior knowledge is required</i>					
701-0901-00 S	ETH Week 2021: Health for Tomorrow ■			45s hrs		C. Bratrich, S. Brusoni, A. Burden, A. Cabello Llamas, R. Knutti, I. Mansuy, F. Rittiner, A. Vaterlaus, C. Wolfrum
	<i>The ETH Week 2021 takes place from Sept. 12-17. The program is open to Bachelor and Master students from all ETH Departments. All students must apply through a competitive application process at <a href="http://www.ethz.ch/ethweek">www.ethz.ch/ethweek</a>. Participation is subject to successful selection through this competitive process.</i>					

<b>851-0370-00L</b>	<b>Didactic Basics for Student Teaching Assistants</b>	<b>W</b>	<b>1 credit</b>	<b>1S</b>		
851-0370-00 S	Didactic Basics for Student Teaching Assistants			14s hrs		<b>S. Pedrocchi</b> , B. Volk
	<i>Self-paced online course: <a href="https://moodle-app2.let.ethz.ch/course/view.php?id=15127">https://moodle-app2.let.ethz.ch/course/view.php?id=15127</a></i>					
	<i>Consolidation Workshops in November (dates will be announced in the online course at the beginning of the semester)</i>					

## ► GESS Science in Perspective

### ►► Science in Perspective

*see Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended Science in Perspective  
(Type B) for D-INFK.*

### ►► Language Courses

*see Science in Perspective: Language  
Courses ETH/UZH*

## ► Bachelor's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>252-0500-00L</b>	<b>Bachelor's Thesis</b>	<b>O</b>	<b>10 credits</b>	<b>21D</b>	
252-0500-00 D	Bachelor-Arbeit			300s hrs by appt.	Professors

### Computer Science Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.



# Computer Science TC

Detailed information on the programme at: [www.didaktischeausbildung.ethz.ch](http://www.didaktischeausbildung.ethz.ch)

## ► Educational Science

General course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours	Lecturers			
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V				
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1	E. Stern
851-0240-22L	<b>Coping with Psychosocial Demands of Teaching (EW4 DZ)</b> <i>Number of participants limited to 20.</i>  <i>The successful participation in EW1 ("Human Learning") and EW2 ("Designing Learning Environments for School") is recommended, but not a mandatory prerequisite.</i>	W	2 credits	3S				
851-0240-22 S	Bewältigung psychosozialer Anforderungen im Lehrberuf (EW4 DZ) ■			3 hrs	Tue	09-12	HG E33.1 HG F26.5 HG G26.1	U. Markwalder, S. Maurer, S. Peteranderl
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S				
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1	R. Schumacher
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S				
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40	E. Stern
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S				
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1	P. Edelsbrunner, T. Braas, C. M. Thurn
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S				

## ► Subject Didactics and Professional Training

Important: You can only enrolle in the courses of this category if you have not more than 12 CP left for possible additional requirements.

Number	Title	Type	ECTS	Hours	Lecturers
<b>272-0101-00L</b>	<b>Subject Didactics of Computer Science I O</b> <i>Simultaneous enrolment in Introductory Practical in Computer Science - course 272-0201-00L - is compulsory.</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>	
272-0101-00 G	Fachdidaktik Informatik I ■ <i>Permission from lecturers required for all students</i>			3 hrs Wed 10-13 CAB G52	<b>G. Serafini, J. Hromkovic</b>
<b>271-0102-00L</b>	<b>Teaching Internship Including Examination Lessons in Computer Science</b> <i>Teaching Internship Computer Science for TC.</i>	<b>O</b>	<b>4 credits</b>	<b>9P</b>	
	<i>Repetition of the Teaching Internship is excluded even if Examination Lessons are to be repeated.</i>				
271-0102-00 P	Unterrichtspraktikum mit Prüfungslektionen Informatik ■ <i>Permission from lecturers required for all students</i>			120s hrs by appt.	<b>J. Hromkovic, G. Serafini</b>
<b>272-0103-00L</b>	<b>Mentored Work Subject Didactics Computer Science A</b> <i>Mentored Work Subject Didactics in Computer Science for TC and Teaching Diploma.</i>	<b>O</b>	<b>2 credits</b>	<b>4A</b>	
272-0103-00 A	Mentorierte Arbeit Fachdidaktik Informatik A für DZ und Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			60s hrs by appt.	<b>J. Hromkovic, G. Serafini</b>

## ► Specialized Courses in Respective Subject with Educational Focus

Number	Title	Type	ECTS	Hours	Lecturers
<b>272-0400-00L</b>	<b>Mentored Work Specialised Courses in the Respective Subject with Educational Focus Computer Sc A</b>	<b>W+</b>	<b>2 credits</b>	<b>4A</b>	
272-0400-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädagogischem Fokus Informatik A ■ <i>Permission from lecturers required for all students</i>			60s hrs by appt.	<b>J. Hromkovic, G. Serafini</b>
<b>252-0237-00L</b>	<b>Concepts of Object-Oriented Programming</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>	
252-0237-00 V	Concepts of Object-Oriented Programming <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs Thu 09-12 HG E1.1	<b>P. Müller</b>
252-0237-00 U	Concepts of Object-Oriented Programming			2 hrs Fri 08-10 10-12 CAB G57 CHN D42 CAB G57 CHN D42 CHN D44	<b>P. Müller</b>
252-0237-00 A	Concepts of Object-Oriented Programming			2 hrs	<b>P. Müller</b>
<b>252-0417-00L</b>	<b>Randomized Algorithms and Probabilistic Methods</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>	
252-0417-00 V	Randomized Algorithms and Probabilistic Methods			3 hrs Wed 08-09 16-18 ML D28 ML D28	<b>A. Steger</b>
252-0417-00 U	Randomized Algorithms and Probabilistic Methods			2 hrs Tue 14-16 16-18 HG D1.2 HG D1.2	<b>A. Steger</b>
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>			4 hrs	<b>A. Steger</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>	
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs Thu 15-16 16-18 Fri 08-10 16-18	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 U	Advanced Machine Learning			2 hrs Wed 14-16 16-18 Thu 16-18 Fri 14-16	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
<b>252-1407-00L</b>	<b>Algorithmic Game Theory</b>	<b>W</b>	<b>7 credits</b>	<b>3V+2U+1A</b>	
252-1407-00 V	Algorithmic Game Theory			3 hrs Fri 10-13 CHN C14	<b>P. Penna</b>
252-1407-00 U	Algorithmic Game Theory			2 hrs Tue 10-12 16-18 CAB G57 CAB G59 LFW B3	<b>P. Penna</b>
252-1407-00 A	Algorithmic Game Theory <i>Project Work, no fixed presence required.</i>			1 hrs	<b>P. Penna</b>

<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance W Computing</b>	<b>9 credits</b>	<b>3V+2U+3A</b>					
	<i>Number of participants limited to 125.</i>							
263-2800-00 V	Design of Parallel and High-Performance Computing	3 hrs	Mon	13-16	CAB G11	<b>T. Hoefler, M. Püschel</b>		
263-2800-00 U	Design of Parallel and High-Performance Computing	2 hrs	Thu	14-16	CHN C14	<b>T. Hoefler, M. Püschel</b>		
263-2800-00 A	Design of Parallel and High-Performance Computing	3 hrs				<b>T. Hoefler, M. Püschel</b>		
	<i>Project Work, no fixed presence required.</i>							

#### Computer Science TC - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Computer Science Teaching Diploma

More informations at : <https://www.ethz.ch/de/studium/didaktische-ausbildung/studienangebot-zulassung/lehrdiplom-fuer-maturitaetsschulen.html>

## ► Educational Science

Course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours				Lecturers
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S				
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1	R. Schumacher
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S				
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40	E. Stern
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S				
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1	P. Edelsbrunner, T. Braas, C. M. Thurn
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S				
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114	M. Berkowitz Biran, T. Braas, C. M. Thurn
see Educational Science Teaching Diploma								
851-0238-01L	<b>Support and Diagnosis of Knowledge Acquisition Processes (EW3)</b> <i>Enrolment only possible with matriculation in Teaching Diploma (except for students of Sport Teaching Diploma, who complete the sport-specific course unit EW3) and for students who intend to enrol in the "Teaching Diploma".</i>  <i>Prerequisites: successful participation in 851-0240-00L "Human Learning (EW1)".</i>	W	3 credits	3S				
851-0238-01 S	Unterstützung und Diagnose von Wissenserwerbsprozessen (EW3) ■ <i>Bei grosser Anzahl an Teilnehmenden wird die Lehrveranstaltung in zwei Gruppen stattfinden.</i>			3 hrs	Tue	14-17	CHN D42 CHN D44	P. Edelsbrunner, J. Maue, C. M. Thurn

## ► Subject Didactics in Computer Science

Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.

Number	Title	Type	ECTS	Hours				Lecturers
272-0101-00L	<b>Subject Didactics of Computer Science I</b> <i>Simultaneous enrolment in Introductory Practical in Computer Science - course 272-0201-00L - is compulsory.</i>	O	4 credits	3G				
272-0101-00 G	Fachdidaktik Informatik I ■ <i>Permission from lecturers required for all students</i>			3 hrs	Wed	10-13	CAB G52	G. Serafini, J. Hromkovic
272-0103-00L	<b>Mentored Work Subject Didactics Computer Science A</b> <i>Mentored Work Subject Didactics in Computer Science for TC and Teaching Diploma.</i>	O	2 credits	4A				
272-0103-00 A	Mentorierte Arbeit Fachdidaktik Informatik A für DZ und Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.			J. Hromkovic, G. Serafini
272-0104-00L	<b>Mentored Work Subject Didactics Computer Science B</b> <i>Mentored Work Subject Didactics in Computer Science for Teaching Diploma and for students upgrading TC to Teaching Diploma.</i>	O	2 credits	4A				
272-0104-00 A	Mentorierte Arbeit Fachdidaktik Informatik B Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.			J. Hromkovic, G. Serafini

## ► Professional Training

Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.

Number	Title	Type	ECTS	Hours		Lecturers
272-0201-00L	<b>Introductory Practical in Computer Science</b> <i>Simultaneous enrolment in Subject Didactics of Computer Science I - course 272-0101-00L - is compulsory.</i>	O	3 credits	6P		J. Hromkovic, G. Serafini
272-0201-00 P	Einführungspraktikum Informatik ■ <i>Permission from lecturers required for all students</i>			90s hrs	by appt.	
272-0202-00L	<b>Professional Exercises</b>	O	2 credits	4U		J. Hromkovic, G. Serafini
272-0202-00 U	Berufspraktische Übungen ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.	
272-0203-00L	<b>Teaching Internship in Computer Science</b>	O	8 credits	17P		J. Hromkovic, G. Serafini
272-0203-00 P	Unterrichtspraktikum Informatik Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			240s hrs	by appt.	
272-0204-00L	<b>Teaching Internship in Computer Science II</b> <i>Teaching Internship for students upgrading TC to Teaching Diploma.</i>	W	4 credits	9P		J. Hromkovic, G. Serafini
272-0204-00 P	Unterrichtspraktikum II Informatik (ohne Prüfungslektionen) ■ <i>Permission from lecturers required for all students</i>			120s hrs	by appt.	
272-0205-01L	<b>Examination Lesson I in Computer Science</b> <i>Simultaneous enrolment in "Examination Lesson II in Computer Science" (272-0205-02L) is compulsory.</i>	O	1 credit	2P		J. Hromkovic, G. Serafini
272-0205-01 P	Prüfungslektion untere Stufe Informatik ■ <i>Permission from lecturers required for all students</i>			30s hrs	by appt.	
272-0205-02L	<b>Examination Lesson II in Computer Science</b> <i>Simultaneous enrolment in "Examination Lesson I in Computer Science" (272-0205-01L) is compulsory.</i>	O	1 credit	2P		J. Hromkovic, G. Serafini
272-0205-02 P	Prüfungslektion obere Stufe Informatik ■ <i>Permission from lecturers required for all students</i>			30s hrs	by appt.	

## ► Spec. Courses in Resp. Subj. w/ Educ. Focus & Further Subj. Didactics

Number	Title	Type	ECTS	Hours		Lecturers
272-0400-00L	Mentored Work Specialised Courses in the Respective Subject with Educational Focus Computer Sc A	O	2 credits	4A		J. Hromkovic, G. Serafini
272-0400-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädagogischem Fokus Informatik A ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.	
272-0401-00L	Mentored Work Specialised Courses in the Respective Subject with Educational Focus Computer Sc B	O	2 credits	4A		

272-0401-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädagogischem Fokus Informatik B ■ <i>Permission from lecturers required for all students</i>	60s hrs	by appt.					<b>J. Hromkovic, G. Serafini</b>
<b>252-0237-00L</b>	<b>Concepts of Object-Oriented Programming</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
252-0237-00 V	Concepts of Object-Oriented Programming <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	3 hrs	Thu	09-12	HG E1.1			<b>P. Müller</b>
252-0237-00 U	Concepts of Object-Oriented Programming	2 hrs	Fri	08-10 10-12	CAB G57 CHN D42 CAB G57 CHN D42 CHN D44			<b>P. Müller</b>
252-0237-00 A	Concepts of Object-Oriented Programming	2 hrs						<b>P. Müller</b>
<b>252-0417-00L</b>	<b>Randomized Algorithms and Probabilistic Methods</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0417-00 V	Randomized Algorithms and Probabilistic Methods	3 hrs	Wed Thu	08-09 16-18	ML D28 ML D28			<b>A. Steger</b>
252-0417-00 U	Randomized Algorithms and Probabilistic Methods	2 hrs	Tue	14-16 16-18	HG D1.2 HG D1.2			<b>A. Steger</b>
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>	4 hrs						<b>A. Steger</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>	3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3			<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 U	Advanced Machine Learning	2 hrs	Wed Thu Fri	14-16 16-18 16-18	CAB G61 CAB G61 ML F34 CAB G61			<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>	4 hrs						<b>J. M. Buhmann, C. Cotrini Jimenez</b>
<b>252-1407-00L</b>	<b>Algorithmic Game Theory</b>	<b>W</b>	<b>7 credits</b>	<b>3V+2U+1A</b>				
252-1407-00 V	Algorithmic Game Theory	3 hrs	Fri	10-13	CHN C14			<b>P. Penna</b>
252-1407-00 U	Algorithmic Game Theory	2 hrs	Tue	10-12 16-18	CAB G57 CAB G59 LFW B3			<b>P. Penna</b>
252-1407-00 A	Algorithmic Game Theory <i>Project Work, no fixed presence required.</i>	1 hrs						<b>P. Penna</b>
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance Computing</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>				
263-2800-00 V	Design of Parallel and High-Performance Computing	3 hrs	Mon	13-16	CAB G11			<b>T. Hoefler, M. Püschel</b>
263-2800-00 U	Design of Parallel and High-Performance Computing	2 hrs	Thu	14-16	CHN C14			<b>T. Hoefler, M. Püschel</b>
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>	3 hrs						<b>T. Hoefler, M. Püschel</b>

## ► Compulsory Elective Courses

Further course offerings from the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

see Compulsory Elective Courses Teaching Diploma

## Computer Science Teaching Diploma - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Computer Science Master

## ► Master Studies (Programme Regulations 2020)

### ►► Majors

#### ►►► Major in Data Management Systems

#### ►►►► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>263-3010-00L</b>	<b>Big Data</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
263-3010-00 V	Big Data <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue Wed	14-16 09-10	CAB G61 ML H44	<b>G. Fourny</b>
263-3010-00 U	Big Data <i>Groups are selected in myStudies.</i>			2 hrs	Wed	14-16	CAB G52 HG E33.1 HG G26.1 ON LINE CAB G52 ON LINE	<b>G. Fourny</b>
263-3010-00 A	Big Data <i>Individual work to get hands-on experience with the technologies covered, no fixed presence required.</i>			4 hrs	Fri	14-16		<b>G. Fourny</b>
<b>263-3845-00L</b>	<b>Data Management Systems</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-3845-00 V	Data Management Systems			3 hrs	Wed Fri	10-12 08-09	CAB G61 HG G3	<b>G. Alonso</b>
263-3845-00 U	Data Management Systems			1 hrs	Fri	09-10	HG D5.1 HG E21 HG G26.1	<b>G. Alonso</b>
263-3845-00 A	Data Management Systems			3 hrs				<b>G. Alonso</b>

#### ►►►► Elective Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed	14-16 16-18	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs	Thu Fri	16-18 14-16		<b>J. M. Buhmann, C. Cotrini Jimenez</b>
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	<b>S. Capkun, A. Perrig</b>
252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>			2 hrs	Thu	14-16 16-18	HG D3.2 CAB G11	<b>S. Capkun, A. Perrig</b>
252-1414-00 A	System Security			2 hrs				<b>S. Capkun, A. Perrig</b>
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance Computing</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>				
263-2800-00 V	Design of Parallel and High-Performance Computing			3 hrs	Mon	13-16	CAB G11	<b>T. Hoefler, M. Püschel</b>
263-2800-00 U	Design of Parallel and High-Performance Computing			2 hrs	Thu	14-16	CHN C14	<b>T. Hoefler, M. Püschel</b>
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>			3 hrs				<b>T. Hoefler, M. Püschel</b>
<b>263-3210-00L</b>	<b>Deep Learning</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-3210-00 V	Deep Learning <i>Number of participants limited to 320.</i>			3 hrs	Wed Thu	13-14 14-16	ML D28 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 U	Deep Learning			2 hrs	Mon Wed	16-18 16-18	HG G5 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 A	Deep Learning			2 hrs				<b>F. Perez Cruz, A. Lucchi</b>
<b>263-3850-00L</b>	<b>Informal Methods</b>	<b>W</b>	<b>5 credits</b>	<b>2G+2A</b>				
263-3850-00 G	Informal Methods			2 hrs	Thu	10-12	CAB G59	<b>D. Cock</b>
263-3850-00 A	Informal Methods			2 hrs				<b>D. Cock</b>

#### ►►► Major in Machine Intelligence

#### ►►►► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann, C. Cotrini Jimenez</b>

252-0535-00 U	Advanced Machine Learning		2 hrs	Wed	14-16	CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
				Thu	16-18	CAB G61	
				Fri	16-18	ML F34	
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>		4 hrs		14-16	CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
263-3210-00 V	Deep Learning		3 hrs	Wed	13-14	ML D28	<b>F. Perez Cruz,</b> A. Lucchi
				Thu	14-16	ML D28	
263-3210-00 U	Deep Learning		2 hrs	Mon	16-18	HG G5	<b>F. Perez Cruz,</b> A. Lucchi
				Wed	16-18	ML D28	
263-3210-00 A	Deep Learning		2 hrs				<b>F. Perez Cruz,</b> A. Lucchi
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>		3 hrs	Fri	10-12	ETA F5 ETF E1	<b>A. Krause</b>
					13-14	ETA F5 ETF E1	
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>		2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>
263-5210-00 A	Probabilistic Artificial Intelligence		2 hrs				<b>A. Krause</b>
<b>▶▶▶▶ Elective Courses</b>							
Number	Title	Type	ECTS	Hours			Lecturers
<b>252-3005-00L</b>	<b>Natural Language Processing</b> <i>Number of participants limited to 400.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>			
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>		2 hrs	Mon	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 U	Natural Language Processing		2 hrs	Wed	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 A	Natural Language Processing		1 hrs				<b>R. Cotterell</b>
<b>261-5100-00L</b>	<b>Computational Biomedicine</b> <i>Number of participants limited to 120.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>			
261-5100-00 V	Computational Biomedicine <i>Online lecture: This lecture will take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>		2 hrs	Tue	10-12	ML F39	<b>V. Boeva, G. Rätsch</b>
261-5100-00 U	Computational Biomedicine <i>Online lecture: This lecture will take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>		1 hrs	Tue	13-14	ML F39	<b>V. Boeva, G. Rätsch</b>
261-5100-00 A	Computational Biomedicine		1 hrs				<b>V. Boeva, G. Rätsch</b>
<b>263-2400-00L</b>	<b>Reliable and Trustworthy Artificial Intelligence</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U+1A</b>			
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Wed	14-16	HG G3	<b>M. Vechev</b>
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Mon	12-14	CAB G56	<b>M. Vechev</b>
				Wed	12-14	CAB G51	
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence		1 hrs				<b>M. Vechev</b>
<b>263-4500-00L</b>	<b>Advanced Algorithms</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>			
263-4500-00 V	Advanced Algorithms <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		3 hrs	Wed	09-12	HG D5.2	<b>M. Ghaffari,</b> G. Zuzic
263-4500-00 U	Advanced Algorithms		2 hrs	Fri	10-12	CAB G59	<b>M. Ghaffari,</b> G. Zuzic
263-4500-00 A	Advanced Algorithms		3 hrs				<b>M. Ghaffari,</b> G. Zuzic
<b>263-5005-00L</b>	<b>Artificial Intelligence in Education</b> <i>Number of participants limited to 75.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>			
263-5005-00 V	Artificial Intelligence in Education <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Thu	16-18	RZ F21	<b>M. Sachan,</b> T. Sinha
263-5005-00 U	Artificial Intelligence in Education <i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>		1 hrs	Thu	18-19	RZ F21	<b>M. Sachan,</b> T. Sinha
263-5005-00 A	Artificial Intelligence in Education		1 hrs				<b>M. Sachan,</b> T. Sinha
<b>263-5255-00L</b>	<b>Foundations of Reinforcement Learning</b> <i>Number of participants limited to 190.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2A</b>			
263-5255-00 V	Foundations of Reinforcement Learning		2 hrs	Fri	14-16	CAB G11	<b>N. He</b>
263-5255-00 A	Foundations of Reinforcement Learning		2 hrs				<b>N. He</b>
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>			



263-5902-00 V	Computer Vision	3 hrs	Wed	14-16	NO C60	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 U	Computer Vision	1 hrs	Thu	12-13	HG G5	<b>M. Pollefeys, S. Tang, F. Yu</b>
			Thu	13-14	CAB G51	
263-5902-00 A	Computer Vision	3 hrs	Fri	13-14	CAB G51	<b>M. Pollefeys, S. Tang, F. Yu</b>

## ►►► Major in Secure and Reliable Systems

### ►►►► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
252-0237-00L	Concepts of Object-Oriented Programming	W	8 credits	3V+2U+2A				
252-0237-00 V	Concepts of Object-Oriented Programming <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Thu	09-12	HG E1.1	P. Müller
252-0237-00 U	Concepts of Object-Oriented Programming			2 hrs	Fri	08-10	CAB G57 CHN D42 CAB G57 CHN D42 CHN D44	P. Müller
						10-12		
252-0237-00 A	Concepts of Object-Oriented Programming			2 hrs				P. Müller
252-0463-00L	Security Engineering	W	7 credits	2V+2U+2A				
252-0463-00 V	Security Engineering			2 hrs	Wed	10-12	CAB G51	S. Krstic
252-0463-00 U	Security Engineering <i>Lab sessions every Friday in CAB H52 from 10-12</i>			2 hrs	Wed Fri	14-16 10-12	CAB G51 CAB H52	S. Krstic
252-0463-00 A	Security Engineering			2 hrs				S. Krstic
252-1414-00L	System Security	W	7 credits	2V+2U+2A				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	S. Capkun, A. Perrig
252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>			2 hrs	Thu	14-16	HG D3.2 CAB G11	S. Capkun, A. Perrig
						16-18		
252-1414-00 A	System Security			2 hrs				S. Capkun, A. Perrig
263-2800-00L	Design of Parallel and High-Performance Computing <i>Number of participants limited to 125.</i>	W	9 credits	3V+2U+3A				
263-2800-00 V	Design of Parallel and High-Performance Computing			3 hrs	Mon	13-16	CAB G11	T. Hoefler, M. Püschel
263-2800-00 U	Design of Parallel and High-Performance Computing			2 hrs	Thu	14-16	CHN C14	T. Hoefler, M. Püschel
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>			3 hrs				T. Hoefler, M. Püschel
263-4640-00L	Network Security	W	8 credits	2V+2U+3A				
263-4640-00 V	Network Security			2 hrs	Tue	10-12	HG E1.2	A. Perrig, S. Frei, M. Legner, K. Paterson
263-4640-00 U	Network Security			2 hrs	Thu	16-18	CAB G61	A. Perrig, S. Frei, M. Legner, K. Paterson
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>			3 hrs				A. Perrig, S. Frei, M. Legner, K. Paterson
▶▶▶▶ Elective Courses								
Number	Title	Type	ECTS	Hours				Lecturers
252-1411-00L	Security of Wireless Networks	W	6 credits	2V+1U+2A				
252-1411-00 V	Security of Wireless Networks			2 hrs	Tue	14-16	ML F34	S. Capkun, K. Kostiainen
252-1411-00 U	Security of Wireless Networks			1 hrs	Fri/2w	14-16	CAB E87.2	S. Capkun, K. Kostiainen
252-1411-00 A	Security of Wireless Networks <i>includes a semester long project</i>			2 hrs				S. Capkun, K. Kostiainen
263-2400-00L	Reliable and Trustworthy Artificial Intelligence	W	6 credits	2V+2U+1A				
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG G3	M. Vechev
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon Wed	12-14 12-14	CAB G56 CAB G51	M. Vechev
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence			1 hrs				M. Vechev
263-4657-00L	Advanced Encryption Schemes	W	5 credits	2V+1U+1A				
263-4657-00 V	Advanced Encryption Schemes			2 hrs	Thu	12-14	CAB G59	R. Gay
263-4657-00 U	Advanced Encryption Schemes			1 hrs	Wed/2w	16-17	HG E33.5	R. Gay
263-4657-00 A	Advanced Encryption Schemes			1 hrs				R. Gay
263-4665-00L	Zero-Knowledge Proofs <i>Number of participants limited to 50.</i>	W	5 credits	2V+1U+1A				
263-4665-00 V	Zero-Knowledge Proofs			2 hrs	Fri	12-14	CHN G42	J. Bootle
263-4665-00 U	Zero-Knowledge Proofs			1 hrs	Fri	15-16	CHN F42	J. Bootle
263-4665-00 A	Zero-Knowledge Proofs			1 hrs				J. Bootle

<b>227-0579-00L</b>	<b>Hardware Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>					
227-0579-00 V	Hardware Security <i>An informal meeting is planned for Friday, 17 December between 5 - 7 pm. The exact room will be announced later. Please note that the classes of October 5 and October 19 take place from 08:00 - 11:00 instead of 08:00 - 10:00 in ETZ G71.2.</i>			2 hrs	Tue	08-10	HG E41	<b>K. Razavi</b>	
227-0579-00 U	Hardware Security			2 hrs	Thu	10-12	IFW A32.1	<b>K. Razavi</b>	
227-0579-00 A	Hardware Security <i>Project Work, no fixed presence required.</i>			2 hrs				<b>K. Razavi</b>	

## ►►► Major in Theoretical Computer Science

### ►►►► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0417-00L</b>	<b>Randomized Algorithms and Probabilistic Methods</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0417-00 V	Randomized Algorithms and Probabilistic Methods			3 hrs	Wed	08-09	ML D28	<b>A. Steger</b>
					Thu	16-18	ML D28	
252-0417-00 U	Randomized Algorithms and Probabilistic Methods			2 hrs	Tue	14-16	HG D1.2	<b>A. Steger</b>
						16-18	HG D1.2	
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>			4 hrs				<b>A. Steger</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu	15-16	ETA F5	<b>J. M. Buhmann,</b>
					Fri	08-10	ETF E1	<b>C. Cotrini Jimenez</b>
							HG F1	
							HG F3	
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed	14-16	CAB G61	<b>J. M. Buhmann,</b>
					Thu	16-18	CAB G61	<b>C. Cotrini Jimenez</b>
					Fri	14-16	ML F34	
							CAB G61	
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				<b>J. M. Buhmann,</b>
								<b>C. Cotrini Jimenez</b>
<b>252-1425-00L</b>	<b>Geometry: Combinatorics and Algorithms</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
252-1425-00 V	Geometry: Combinatorics and Algorithms			3 hrs	Mon	13-14	CAB G51	<b>B. Gärtner, E. Welzl,</b>
					Thu	14-16	CAB G51	<b>M. Hoffmann, M. Wettstein</b>
252-1425-00 U	Geometry: Combinatorics and Algorithms			2 hrs	Mon	14-16	CAB G51	<b>B. Gärtner, E. Welzl,</b>
					23.09.	16-18	CAB G51	<b>M. Hoffmann, M. Wettstein</b>
					30.09.	16-18	CAB G51	
252-1425-00 A	Geometry: Combinatorics and Algorithms <i>Project Work, no fixed presence required.</i>			2 hrs				<b>B. Gärtner, E. Welzl,</b>
								<b>M. Hoffmann, M. Wettstein</b>
<b>263-4500-00L</b>	<b>Advanced Algorithms</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>				
263-4500-00 V	Advanced Algorithms <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Wed	09-12	HG D5.2	<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 U	Advanced Algorithms			2 hrs	Fri	10-12	CAB G59	<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 A	Advanced Algorithms			3 hrs				<b>M. Ghaffari, G. Zuzic</b>

### ►►►► Elective Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-1407-00L</b>	<b>Algorithmic Game Theory</b>	<b>W</b>	<b>7 credits</b>	<b>3V+2U+1A</b>				
252-1407-00 V	Algorithmic Game Theory			3 hrs	Fri	10-13	CHN C14	<b>P. Penna</b>
252-1407-00 U	Algorithmic Game Theory			2 hrs	Tue	10-12	CAB G57	<b>P. Penna</b>
						16-18	CAB G59	
							LFW B3	
252-1407-00 A	Algorithmic Game Theory <i>Project Work, no fixed presence required.</i>			1 hrs				<b>P. Penna</b>
<b>227-0417-00L</b>	<b>Information Theory I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0417-00 G	Information Theory I			4 hrs	Wed	14-18	ETF C1	<b>A. Lapidoth</b>
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
401-3055-64 V	Algebraic Methods in Combinatorics			2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>
401-3055-64 U	Algebraic Methods in Combinatorics			1 hrs	Mon	12-13	ML F34	<b>B. Sudakov</b>
						13-14	ML F34	
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>				
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			4 hrs	Wed	12-14	HG G5	<b>R. Zenklusen</b>
					Thu	10-12	HG G5	
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>			2 hrs	Thu	14-16	HG F26.5	<b>R. Zenklusen</b>
					Fri	10-12	CAB G51	
						12-14	HG D3.2	
						14-16	HG F26.5	

## ►►► Major in Visual and Interactive Computing

### ►►►► Core Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>252-0543-01L</b>	<b>Computer Graphics</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
252-0543-01 V	Computer Graphics <i>Does not take place this semester.</i>			3 hrs					
252-0543-01 U	Computer Graphics <i>Does not take place this semester.</i>			2 hrs					
252-0543-01 A	Computer Graphics <i>Does not take place this semester.</i>			2 hrs					
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>					
263-5902-00 V	Computer Vision			3 hrs	Wed	14-16	NO C60	<b>M. Pollefeys, S. Tang, F. Yu</b>	
					Thu	12-13	HG G5		
263-5902-00 U	Computer Vision			1 hrs	Thu	13-14	CAB G51		<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 A	Computer Vision			3 hrs	Fri	13-14	CAB G51		<b>M. Pollefeys, S. Tang, F. Yu</b>

## ▶▶▶▶ Elective Courses

Number	Title	Type	ECTS	Hours				Lecturers
252-0546-00L	Physically-Based Simulation in Computer Graphics	W	5 credits	2V+1U+1A				
252-0546-00 V	Physically-Based Simulation in Computer Graphics			2 hrs	Tue	10-12	CAB G51	V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
252-0546-00 U	Physically-Based Simulation in Computer Graphics			1 hrs	Tue	16-17	CAB G51	V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
252-0546-00 A	Physically-Based Simulation in Computer Graphics			1 hrs				V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
263-5905-00L	Mixed Reality	W	5 credits	3G+1A				
263-5905-00 G	Mixed Reality			3 hrs	Mon	10-13	CAB G11	I. Armeni, F. Bogo, M. Pollefeys
263-5905-00 A	Mixed Reality			1 hrs				I. Armeni, F. Bogo, M. Pollefeys

## ▶▶ Seminar

Number	Title	Type	ECTS	Hours				Lecturers	
252-3811-00L	<b>Case Studies from Practice Seminar</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	4 credits	2S					
252-3811-00 S	Case Studies from Practice Seminar			2 hrs	21.09. 28.09. 05.10. 12.10.	16-18 16-18 16-18 16-18	CAB H52 CAB H52 CAB H52 CAB H52	<b>M. Brandis</b>	
252-4601-00L	<b>Current Topics in Information Security</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S					
252-4601-00 S	Current Topics in Information Security <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	14-16	CAB G57	<b>S. Capkun, K. Paterson, A. Perrig, S. Shinde</b>	
252-5051-00L	<b>Advanced Topics in Machine Learning</b> <i>Number of participants limited to 40.</i>  <i>The deadline for deregistering expires at the end of the fourth week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S					
252-5051-00 S	Advanced Topics in Machine Learning ■			2 hrs	Tue Thu	16-18 16-18	CAB G56 CAB G57	<b>J. M. Buhmann, R. Cotterell, J. Vogt, F. Yang</b>	
252-5701-00L	<b>Advanced Topics in Computer Graphics and Vision</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the third week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S					

252-5701-00 S	Advanced Topics in Computer Graphics and Vision		2 hrs	Thu	14-16	CAB G56	<b>M. Pollefeys, O. Sorkine Hornung, S. Tang</b>
<b>263-2100-00L</b>	<b>Research Topics in Software Engineering</b> <i>Number of participants limited to 22.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
263-2100-00 S	Research Topics in Software Engineering <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Tue	14-16	CHN G46	<b>P. Müller, M. Püschel</b>
<b>263-3504-00L</b>	<b>Hardware Acceleration for Data Processing</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
263-3504-00 S	Hardware Acceleration for Data Processing <i>Online seminar: This seminar will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Tue	14-16	ML J34.1	<b>G. Alonso</b>
<b>263-3713-00L</b>	<b>Advanced Topics in Human-Centric Computer Vision</b> <i>Numbers of participants limited to 20.</i>  <i>The deadline for deregistering expires at the end of the third week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
263-3713-00 S	Advanced Topics in Human-Centric Computer Vision		2 hrs	Thu	16-18	CAB G52	<b>O. Hilliges</b>
<b>263-4410-00L</b>	<b>Seminar on Advanced Graph Algorithms and Optimization</b> <i>Number of participants limited to 6!</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
263-4410-00 S	Seminar on Advanced Graph Algorithms and Optimization		2 hrs				<b>R. Kyng</b>
<b>263-5156-00L</b>	<b>Beyond iid Learning: Causality, Dynamics, and Interactions</b> <i>Number of participants limited to 60.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
263-5156-00 S	Beyond iid Learning: Causality, Dynamics, and Interactions <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>		2 hrs	Wed	16-18	ON LINE	<b>M. Mühlebach, A. Krause, B. Schölkopf</b>

## ►► Practical Work

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0811-00L</b>	<b>Applied Security Laboratory</b>	<b>W</b>	<b>8 credits</b>	<b>7P</b>				
252-0811-00 P	Applied Security Laboratory			7 hrs	Thu	10-13	LEE D101	<b>C. Sprenger</b>
<b>252-0817-00L</b>	<b>Distributed Systems Laboratory</b>	<b>W</b>	<b>10 credits</b>	<b>9P</b>				
252-0817-00 P	Distributed Systems Laboratory <i>Lab projects are typically carried out in groups of two or three students.</i>			9 hrs	by appt.			<b>G. Alonso, T. Hoefler, A. Klimovic, T. Roscoe, R. Wattenhofer, C. Zhang</b>
<b>263-0650-00L</b>	<b>Practical Work</b>	<b>W</b>	<b>8 credits</b>	<b>17A</b>				
263-0650-00 A	Praktische Arbeit ■			240s hrs	by appt.			Supervisors

## ►► Minors

### ►►► Minor in Computer Graphics

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0546-00L</b>	<b>Physically-Based Simulation in Computer Graphics</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>				

252-0546-00 V	Physically-Based Simulation in Computer Graphics			2 hrs	Tue	10-12	CAB G51	V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
252-0546-00 U	Physically-Based Simulation in Computer Graphics			1 hrs	Tue	16-17	CAB G51	V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
252-0546-00 A	Physically-Based Simulation in Computer Graphics			1 hrs				V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
<b>252-0543-01L</b>	<b>Computer Graphics</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
252-0543-01 V	Computer Graphics <i>Does not take place this semester.</i>			3 hrs				
252-0543-01 U	Computer Graphics <i>Does not take place this semester.</i>			2 hrs				
252-0543-01 A	Computer Graphics <i>Does not take place this semester.</i>			2 hrs				
<b>263-5905-00L</b>	<b>Mixed Reality</b>	<b>W</b>	<b>5 credits</b>	<b>3G+1A</b>				
263-5905-00 G	Mixed Reality			3 hrs	Mon	10-13	CAB G11	I. Armeni, F. Bogo, M. Pollefeys
263-5905-00 A	Mixed Reality			1 hrs				I. Armeni, F. Bogo, M. Pollefeys
<b>▶▶▶ Minor in Computer Vision</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-3210-00 V	Deep Learning			3 hrs	Wed Thu	13-14 14-16	ML D28 ML D28	F. Perez Cruz, A. Lucchi
263-3210-00 U	Deep Learning			2 hrs	Mon Wed	16-18 16-18	HG G5 ML D28	F. Perez Cruz, A. Lucchi
263-3210-00 A	Deep Learning			2 hrs				F. Perez Cruz, A. Lucchi
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-5902-00 V	Computer Vision			3 hrs	Wed Thu	14-16 12-13	NO C60 HG G5	M. Pollefeys, S. Tang, F. Yu
263-5902-00 U	Computer Vision			1 hrs	Thu Fri	13-14 13-14	CAB G51 CAB G51	M. Pollefeys, S. Tang, F. Yu
263-5902-00 A	Computer Vision			3 hrs				M. Pollefeys, S. Tang, F. Yu
<b>263-5905-00L</b>	<b>Mixed Reality</b>	<b>W</b>	<b>5 credits</b>	<b>3G+1A</b>				
263-5905-00 G	Mixed Reality			3 hrs	Mon	10-13	CAB G11	I. Armeni, F. Bogo, M. Pollefeys
263-5905-00 A	Mixed Reality			1 hrs				I. Armeni, F. Bogo, M. Pollefeys
<b>▶▶▶ Minor in Data Management</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	J. M. Buhmann, C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed Thu Fri	14-16 16-18 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	J. M. Buhmann, C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				J. M. Buhmann, C. Cotrini Jimenez
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance Computing</b> <i>Number of participants limited to 125.</i>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>				
263-2800-00 V	Design of Parallel and High-Performance Computing			3 hrs	Mon	13-16	CAB G11	T. Hoefler, M. Püschel
263-2800-00 U	Design of Parallel and High-Performance Computing			2 hrs	Thu	14-16	CHN C14	T. Hoefler, M. Püschel
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>			3 hrs				T. Hoefler, M. Püschel
<b>263-3010-00L</b>	<b>Big Data</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
263-3010-00 V	Big Data <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue Wed	14-16 09-10	CAB G61 ML H44	G. Fourny
263-3010-00 U	Big Data <i>Groups are selected in myStudies.</i>			2 hrs	Wed Fri	14-16 14-16	CAB G52 HG E33.1 HG G26.1 ON LINE CAB G52 ON LINE	G. Fourny
263-3010-00 A	Big Data <i>Individual work to get hands-on experience with the technologies covered, no fixed presence required.</i>			4 hrs				G. Fourny

<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-3210-00 V	Deep Learning			3 hrs	Wed	13-14	ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 U	Deep Learning			2 hrs	Mon	14-16	ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 A	Deep Learning			2 hrs	Wed	16-18	HG G5 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
<b>263-3845-00L</b>	<b>Data Management Systems</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-3845-00 V	Data Management Systems			3 hrs	Fri	10-12	CAB G61	<b>G. Alonso</b>
263-3845-00 U	Data Management Systems			1 hrs	Fri	08-09	HG G3	<b>G. Alonso</b>
263-3845-00 A	Data Management Systems			3 hrs		09-10	HG D5.1 HG E21 HG G26.1	<b>G. Alonso</b>
<b>263-3850-00L</b>	<b>Informal Methods</b>	<b>W</b>	<b>5 credits</b>	<b>2G+2A</b>				
263-3850-00 G	Informal Methods			2 hrs	Thu	10-12	CAB G59	<b>D. Cock</b>
263-3850-00 A	Informal Methods			2 hrs				<b>D. Cock</b>

### ►►► Minor in Information Security

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0463-00L</b>	<b>Security Engineering</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-0463-00 V	Security Engineering			2 hrs	Wed	10-12	CAB G51	<b>S. Krstic</b>
252-0463-00 U	Security Engineering <i>Lab sessions every Friday in CAB H52 from 10-12</i>			2 hrs	Wed	14-16	CAB G51	<b>S. Krstic</b>
252-0463-00 A	Security Engineering			2 hrs	Fri	10-12	CAB H52	<b>S. Krstic</b>
<b>252-1411-00L</b>	<b>Security of Wireless Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>				
252-1411-00 V	Security of Wireless Networks			2 hrs	Tue	14-16	ML F34	<b>S. Capkun, K. Kostinen</b>
252-1411-00 U	Security of Wireless Networks			1 hrs	Fri/2w	14-16	CAB E87.2	<b>S. Capkun, K. Kostinen</b>
252-1411-00 A	Security of Wireless Networks <i>includes a semester long project</i>			2 hrs				<b>S. Capkun, K. Kostinen</b>
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	<b>S. Capkun, A. Perrig</b>
252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>			2 hrs	Thu	14-16	HG D3.2	<b>S. Capkun, A. Perrig</b>
252-1414-00 A	System Security			2 hrs		16-18	CAB G11	<b>S. Capkun, A. Perrig</b>
<b>263-4640-00L</b>	<b>Network Security</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U+3A</b>				
263-4640-00 V	Network Security			2 hrs	Tue	10-12	HG E1.2	<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
263-4640-00 U	Network Security			2 hrs	Thu	16-18	CAB G61	<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>			3 hrs				<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
<b>263-4657-00L</b>	<b>Advanced Encryption Schemes</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>				
263-4657-00 V	Advanced Encryption Schemes			2 hrs	Thu	12-14	CAB G59	<b>R. Gay</b>
263-4657-00 U	Advanced Encryption Schemes			1 hrs	Wed/2w	16-17	HG E33.5	<b>R. Gay</b>
263-4657-00 A	Advanced Encryption Schemes			1 hrs				<b>R. Gay</b>
<b>263-4665-00L</b>	<b>Zero-Knowledge Proofs</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>				
263-4665-00 V	Zero-Knowledge Proofs			2 hrs	Fri	12-14	CHN G42	<b>J. Bootle</b>
263-4665-00 U	Zero-Knowledge Proofs			1 hrs	Fri	15-16	CHN F42	<b>J. Bootle</b>
263-4665-00 A	Zero-Knowledge Proofs			1 hrs				<b>J. Bootle</b>
<b>227-0579-00L</b>	<b>Hardware Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
227-0579-00 V	Hardware Security <i>An informal meeting is planned for Friday, 17 December between 5 - 7 pm. The exact room will be announced later. Please note that the classes of October 5 and October 19 take place from 08:00 - 11:00 instead of 08:00 - 10:00 in ETZ G71.2.</i>			2 hrs	Tue	08-10	HG E41	<b>K. Razavi</b>
227-0579-00 U	Hardware Security			2 hrs	Thu	10-12	IFW A32.1	<b>K. Razavi</b>
227-0579-00 A	Hardware Security <i>Project Work, no fixed presence required.</i>			2 hrs				<b>K. Razavi</b>

### ►►► Minor in Machine Learning

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu	15-16	ETA F5 ETF E1	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 U	Advanced Machine Learning			2 hrs	Fri	08-10	HG F1 HG F3	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs	Wed	14-16	CAB G61	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
					Thu	16-18	CAB G61	
					Fri	16-18	ML F34	
						14-16	CAB G61	

<b>252-3005-00L</b>	<b>Natural Language Processing</b> <i>Number of participants limited to 400.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>					
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>			2 hrs	Mon	12-14	HG F7	<b>R. Cotterell</b>	
252-3005-00 U	Natural Language Processing			2 hrs	Wed	12-14	HG F7	<b>R. Cotterell</b>	
252-3005-00 A	Natural Language Processing			1 hrs				<b>R. Cotterell</b>	
<b>263-2400-00L</b>	<b>Reliable and Trustworthy Artificial Intelligence</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U+1A</b>					
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG G3	<b>M. Vechev</b>	
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon Wed	12-14 12-14	CAB G56 CAB G51	<b>M. Vechev</b>	
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence			1 hrs				<b>M. Vechev</b>	
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
263-3210-00 V	Deep Learning			3 hrs	Wed Thu	13-14 14-16	ML D28 ML D28	<b>F. Perez Cruz, A. Lucchi</b>	
263-3210-00 U	Deep Learning			2 hrs	Mon Wed	16-18 16-18	HG G5 ML D28	<b>F. Perez Cruz, A. Lucchi</b>	
263-3210-00 A	Deep Learning			2 hrs				<b>F. Perez Cruz, A. Lucchi</b>	
<b>263-5005-00L</b>	<b>Artificial Intelligence in Education</b> <i>Number of participants limited to 75.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>					
263-5005-00 V	Artificial Intelligence in Education <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	16-18	RZ F21	<b>M. Sachan, T. Sinha</b>	
263-5005-00 U	Artificial Intelligence in Education <i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>			1 hrs	Thu	18-19	RZ F21	<b>M. Sachan, T. Sinha</b>	
263-5005-00 A	Artificial Intelligence in Education			1 hrs				<b>M. Sachan, T. Sinha</b>	
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>			3 hrs	Fri	10-12 13-14	ETA F5 ETF E1 ETA F5 ETF E1	<b>A. Krause</b>	
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>			2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>	
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs				<b>A. Krause</b>	
<b>263-5255-00L</b>	<b>Foundations of Reinforcement Learning</b> <i>Number of participants limited to 190.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2A</b>					
263-5255-00 V	Foundations of Reinforcement Learning			2 hrs	Fri	14-16	CAB G11	<b>N. He</b>	
263-5255-00 A	Foundations of Reinforcement Learning			2 hrs				<b>N. He</b>	

### ►►► Minor in Networking

Number	Title	Type	ECTS	Hours					Lecturers
<b>252-1411-00L</b>	<b>Security of Wireless Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>					
252-1411-00 V	Security of Wireless Networks			2 hrs	Tue	14-16	ML F34	<b>S. Capkun, K. Kostianen</b>	
252-1411-00 U	Security of Wireless Networks			1 hrs	Fri/2w	14-16	CAB E87.2	<b>S. Capkun, K. Kostianen</b>	
252-1411-00 A	Security of Wireless Networks <i>includes a semester long project</i>			2 hrs				<b>S. Capkun, K. Kostianen</b>	
<b>263-4640-00L</b>	<b>Network Security</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U+3A</b>					
263-4640-00 V	Network Security			2 hrs	Tue	10-12	HG E1.2	<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>	
263-4640-00 U	Network Security			2 hrs	Thu	16-18	CAB G61	<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>	
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>			3 hrs				<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>	
<b>227-0575-00L</b>	<b>Advanced Topics in Communication Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0575-00 V	Advanced Topics in Communication Networks			2 hrs	Tue	14-16	ML E12	<b>L. Vanbever</b>	
227-0575-00 U	Advanced Topics in Communication Networks			2 hrs	Tue	16-18	ML E12	<b>L. Vanbever</b>	

### ►►► Minor in Programming Languages and Software Engineering

Number	Title	Type	ECTS	Hours					Lecturers
<b>252-0237-00L</b>	<b>Concepts of Object-Oriented Programming</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
252-0237-00 V	Concepts of Object-Oriented Programming <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Thu	09-12	HG E1.1	<b>P. Müller</b>	

252-0237-00 U	Concepts of Object-Oriented Programming	2 hrs	Fri	08-10	CAB G57 CHN D42	P. Müller
				10-12	CAB G57 CHN D42 CHN D44	
252-0237-00 A	Concepts of Object-Oriented Programming	2 hrs				P. Müller
<b>263-2400-00L</b>	<b>Reliable and Trustworthy Artificial Intelligence</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U+1A</b>		
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Wed	14-16	HG G3	M. Vechev
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Mon Wed	12-14 12-14	CAB G56 CAB G51	M. Vechev
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence	1 hrs				M. Vechev
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance Computing</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>		
	<i>Number of participants limited to 125.</i>					
263-2800-00 V	Design of Parallel and High-Performance Computing	3 hrs	Mon	13-16	CAB G11	T. Hoefler, M. Püschel
263-2800-00 U	Design of Parallel and High-Performance Computing	2 hrs	Thu	14-16	CHN C14	T. Hoefler, M. Püschel
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>	3 hrs				T. Hoefler, M. Püschel

### ►►► Minor in Systems Software

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	<b>S. Capkun, A. Perrig</b>
252-1414-00 U	System Security			2 hrs	Thu	14-16	HG D3.2	<b>S. Capkun, A. Perrig</b>
	<i>The exercises begin in the second week of the semester.</i>					16-18	CAB G11	
252-1414-00 A	System Security			2 hrs				<b>S. Capkun, A. Perrig</b>
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance W Computing</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>				
	<i>Number of participants limited to 125.</i>							
263-2800-00 V	Design of Parallel and High-Performance Computing			3 hrs	Mon	13-16	CAB G11	<b>T. Hoefler, M. Püschel</b>
263-2800-00 U	Design of Parallel and High-Performance Computing			2 hrs	Thu	14-16	CHN C14	<b>T. Hoefler, M. Püschel</b>
263-2800-00 A	Design of Parallel and High-Performance Computing			3 hrs				<b>T. Hoefler, M. Püschel</b>
	<i>Project Work, no fixed presence required.</i>							
<b>263-3845-00L</b>	<b>Data Management Systems</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-3845-00 V	Data Management Systems			3 hrs	Wed	10-12	CAB G61	<b>G. Alonso</b>
					Fri	08-09	HG G3	
263-3845-00 U	Data Management Systems			1 hrs	Fri	09-10	HG D5.1	<b>G. Alonso</b>
							HG E21	
							HG G26.1	
263-3845-00 A	Data Management Systems			3 hrs				<b>G. Alonso</b>
<b>263-3850-00L</b>	<b>Informal Methods</b>	<b>W</b>	<b>5 credits</b>	<b>2G+2A</b>				
263-3850-00 G	Informal Methods			2 hrs	Thu	10-12	CAB G59	<b>D. Cock</b>
263-3850-00 A	Informal Methods			2 hrs				<b>D. Cock</b>

### ►►► Minor in Theoretical Computer Science

Number	Title	Type	ECTS	Hours				Lecturers
252-0417-00L	Randomized Algorithms and Probabilistic Methods	W	10 credits	3V+2U+4A				
252-0417-00 V	Randomized Algorithms and Probabilistic Methods			3 hrs	Wed Thu	08-09 16-18	ML D28 ML D28	A. Steger
252-0417-00 U	Randomized Algorithms and Probabilistic Methods			2 hrs	Tue	14-16 16-18	HG D1.2 HG D1.2	A. Steger
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>			4 hrs				A. Steger
252-0535-00L	Advanced Machine Learning	W	10 credits	3V+2U+4A				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu  Fri	15-16  08-10	ETA F5 ETF E1 HG F1 HG F3	J. M. Buhmann, C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed  Thu Fri	14-16 16-18 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	J. M. Buhmann, C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				J. M. Buhmann, C. Cotrini Jimenez
252-1407-00L	Algorithmic Game Theory	W	7 credits	3V+2U+1A				
252-1407-00 V	Algorithmic Game Theory			3 hrs	Fri	10-13	CHN C14	P. Penna



252-1407-00 U	Algorithmic Game Theory		2 hrs	Tue	10-12	CAB G57 CAB G59 LFW B3	<b>P. Penna</b>
252-1407-00 A	Algorithmic Game Theory <i>Project Work, no fixed presence required.</i>		1 hrs		16-18		<b>P. Penna</b>
<b>252-1425-00L</b>	<b>Geometry: Combinatorics and Algorithms</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
252-1425-00 V	Geometry: Combinatorics and Algorithms		3 hrs	Mon Thu	13-14 14-16	CAB G51 CAB G51	<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
252-1425-00 U	Geometry: Combinatorics and Algorithms		2 hrs	Mon 23.09. 30.09.	14-16 16-18 16-18	CAB G51 CAB G51 CAB G51	<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
252-1425-00 A	Geometry: Combinatorics and Algorithms <i>Project Work, no fixed presence required.</i>		2 hrs				<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
<b>263-4500-00L</b>	<b>Advanced Algorithms</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>			
263-4500-00 V	Advanced Algorithms <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		3 hrs	Wed	09-12	HG D5.2	<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 U	Advanced Algorithms		2 hrs	Fri	10-12	CAB G59	<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 A	Advanced Algorithms		3 hrs				<b>M. Ghaffari, G. Zuzic</b>
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
401-3055-64 V	Algebraic Methods in Combinatorics		2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>
401-3055-64 U	Algebraic Methods in Combinatorics		1 hrs	Mon	12-13 13-14	ML F34 ML F34	<b>B. Sudakov</b>
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>			
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>		4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	<b>R. Zenklusen</b>
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fri 12-14 or Fri 14-16 (depending on demand)</i>		2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>

## ►► Elective Courses (only for Programme Regulations 2020)

Students can individually chose from the entire Master course offerings from ETH Zurich, EPF Lausanne, the University of Zurich and - but only with the consent of the Director of Studies - from all other Swiss universities.

Number	Title	Type	ECTS	Hours			Lecturers
<b>252-0293-00L</b>	<b>Wireless Networking and Mobile Computing</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>			
252-0293-00 V	Wireless Networking and Mobile Computing		2 hrs	Mon	16-18	HG E5	<b>S. Mangold</b>
252-0293-00 U	Wireless Networking and Mobile Computing		1 hrs	Mon	18-19	HG E5	<b>S. Mangold</b>
<b>263-0600-00L</b>	<b>Research in Computer Science</b>	<b>W</b>	<b>5 credits</b>	<b>11A</b>			
	<i>Only for Computer Science MSc.</i>						
263-0600-00 A	Research in Computer Science		150s hrs	by appt.			Professors
<b>227-2210-00L</b>	<b>Computer Architecture</b>	<b>W</b>	<b>8 credits</b>	<b>6G+1A</b>			
227-2210-00 G	Computer Architecture <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		6 hrs	Thu Fri	13-16 13-16	HG D16.2 HG D16.2	<b>O. Mutlu</b>
227-2210-00 A	Computer Architecture		1 hrs				<b>O. Mutlu</b>

## ► Master Studies (Programme Regulations 2009)

### ►► Focus Courses

### ►►► Focus Courses in Distributed Systems

### ►►►► Focus Core Courses Distributed Systems

Number	Title	Type	ECTS	Hours			Lecturers
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>			
252-1414-00 V	System Security		2 hrs	Mon	10-12	HG D1.2	<b>S. Capkun, A. Perrig</b>
252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>		2 hrs	Thu	14-16 16-18	HG D3.2 CAB G11	<b>S. Capkun, A. Perrig</b>
252-1414-00 A	System Security		2 hrs				<b>S. Capkun, A. Perrig</b>
<b>263-3845-00L</b>	<b>Data Management Systems</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>			
263-3845-00 V	Data Management Systems		3 hrs	Wed Fri	10-12 08-09	CAB G61 HG G3	<b>G. Alonso</b>
263-3845-00 U	Data Management Systems		1 hrs	Fri	09-10	HG D5.1 HG E21 HG G26.1	<b>G. Alonso</b>
263-3845-00 A	Data Management Systems		3 hrs				<b>G. Alonso</b>

### ►►►► Focus Elective Courses Distributed Systems

Number	Title	Type	ECTS	Hours			Lecturers
--------	-------	------	------	-------	--	--	-----------

<b>252-0817-00L</b>	<b>Distributed Systems Laboratory</b>	<b>W</b>	<b>10 credits</b>	<b>9P</b>						
252-0817-00 P	Distributed Systems Laboratory <i>Lab projects are typically carried out in groups of two or three students.</i>			9 hrs	by appt.					<b>G. Alonso, T. Hoefler, A. Klimovic, T. Roscoe, R. Wattenhofer, C. Zhang</b>
<b>227-2210-00L</b>	<b>Computer Architecture</b>	<b>W</b>	<b>8 credits</b>	<b>6G+1A</b>						
227-2210-00 G	Computer Architecture <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			6 hrs	Thu Fri	13-16 13-16	HG D16.2 HG D16.2			<b>O. Mutlu</b>
227-2210-00 A	Computer Architecture			1 hrs						<b>O. Mutlu</b>
<b>263-3850-00L</b>	<b>Informal Methods</b>	<b>W</b>	<b>5 credits</b>	<b>2G+2A</b>						
263-3850-00 G	Informal Methods			2 hrs	Thu	10-12	CAB G59			<b>D. Cock</b>
263-3850-00 A	Informal Methods			2 hrs						<b>D. Cock</b>
<b>▶▶▶▶ Seminar in Distributed Systems</b>										
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>						<b>Lecturers</b>
<b>263-3504-00L</b>	<b>Hardware Acceleration for Data Processing</b> <i>Number of participants limited to 24.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>						
	<i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>									
263-3504-00 S	Hardware Acceleration for Data Processing <i>Online seminar: This seminar will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	14-16	ML J34.1			<b>G. Alonso</b>
<b>▶▶▶ Focus Courses in Visual Computing</b>										
<b>▶▶▶▶ Focus Core Courses Visual Computing</b>										
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>						<b>Lecturers</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>						
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3			<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed Thu Fri	14-16 16-18 16-18	CAB G61 CAB G61 ML F34			<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs	Fri	14-16	CAB G61			<b>J. M. Buhmann, C. Cotrini Jimenez</b>
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>						
263-5902-00 V	Computer Vision			3 hrs	Wed Thu	14-16 12-13	NO C60 HG G5			<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 U	Computer Vision			1 hrs	Thu Fri	13-14 13-14	CAB G51 CAB G51			<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 A	Computer Vision			3 hrs						<b>M. Pollefeys, S. Tang, F. Yu</b>
<b>▶▶▶▶ Focus Elective Courses Visual Computing</b>										
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>						<b>Lecturers</b>
<b>252-0543-01L</b>	<b>Computer Graphics</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>						
252-0543-01 V	Computer Graphics <i>Does not take place this semester.</i>			3 hrs						
252-0543-01 U	Computer Graphics <i>Does not take place this semester.</i>			2 hrs						
252-0543-01 A	Computer Graphics <i>Does not take place this semester.</i>			2 hrs						
<b>252-0546-00L</b>	<b>Physically-Based Simulation in Computer Graphics</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>						
252-0546-00 V	Physically-Based Simulation in Computer Graphics			2 hrs	Tue	10-12	CAB G51			<b>V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski</b>
252-0546-00 U	Physically-Based Simulation in Computer Graphics			1 hrs	Tue	16-17	CAB G51			<b>V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski</b>
252-0546-00 A	Physically-Based Simulation in Computer Graphics			1 hrs						<b>V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski</b>
<b>263-2400-00L</b>	<b>Reliable and Trustworthy Artificial Intelligence</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U+1A</b>						
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG G3			<b>M. Vechev</b>

263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Mon Wed	12-14 12-14	CAB G56 CAB G51	<b>M. Vechev</b>
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence	1 hrs				<b>M. Vechev</b>
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>		
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>	3 hrs	Fri	10-12 13-14	ETA F5 ETF E1 ETA F5 ETF E1 CHN C14	<b>A. Krause</b>
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>	2 hrs	Thu	16-18		<b>A. Krause</b>
263-5210-00 A	Probabilistic Artificial Intelligence	2 hrs				<b>A. Krause</b>

### ▶▶▶▶ Seminar in Visual Computing

Number	Title	Type	ECTS	Hours		Lecturers
<b>263-3713-00L</b>	<b>Advanced Topics in Human-Centric Computer Vision</b> <i>Numbers of participants limited to 20.</i>  <i>The deadline for deregistering expires at the end of the third week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
263-3713-00 S	Advanced Topics in Human-Centric Computer Vision			2 hrs	Thu 16-18	<b>O. Hilliges</b>
<b>252-5051-00L</b>	<b>Advanced Topics in Machine Learning</b> <i>Number of participants limited to 40.</i>  <i>The deadline for deregistering expires at the end of the fourth week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
252-5051-00 S	Advanced Topics in Machine Learning ■			2 hrs	Tue Thu 16-18	<b>J. M. Buhmann, R. Cotterell, J. Vogt, F. Yang</b>
<b>252-5701-00L</b>	<b>Advanced Topics in Computer Graphics and Vision</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the third week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
252-5701-00 S	Advanced Topics in Computer Graphics and Vision			2 hrs	Thu 14-16	<b>M. Pollefeys, O. Sorkine Hornung, S. Tang</b>

### ▶▶▶ Focus Courses General Studies

#### ▶▶▶▶ Core Focus Courses General Studies

Number	Title	Type	ECTS	Hours		Lecturers
<b>252-0237-00L</b>	<b>Concepts of Object-Oriented Programming</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>		
252-0237-00 V	Concepts of Object-Oriented Programming <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Thu 09-12	<b>P. Müller</b>
252-0237-00 U	Concepts of Object-Oriented Programming			2 hrs	Fri 08-10 10-12	<b>P. Müller</b>
252-0237-00 A	Concepts of Object-Oriented Programming			2 hrs		<b>P. Müller</b>
<b>252-0417-00L</b>	<b>Randomized Algorithms and Probabilistic Methods</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>		
252-0417-00 V	Randomized Algorithms and Probabilistic Methods			3 hrs	Wed Thu 08-09 16-18	<b>A. Steger</b>
252-0417-00 U	Randomized Algorithms and Probabilistic Methods			2 hrs	Tue 14-16 16-18	<b>A. Steger</b>
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>			4 hrs		<b>A. Steger</b>
<b>252-0463-00L</b>	<b>Security Engineering</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>		
252-0463-00 V	Security Engineering			2 hrs	Wed 10-12	<b>S. Krstic</b>
252-0463-00 U	Security Engineering <i>Lab sessions every Friday in CAB H52 from 10-12</i>			2 hrs	Wed Fri 14-16 10-12	<b>S. Krstic</b>
252-0463-00 A	Security Engineering			2 hrs		<b>S. Krstic</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>		

252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3</i> <i>Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>	3 hrs	Thu	15-16	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning	2 hrs	Wed	14-16	CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
			Thu	16-18	CAB G61	
			Fri	14-16	ML F34 CAB G61	
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>	4 hrs				<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>		
252-1414-00 V	System Security	2 hrs	Mon	10-12	HG D1.2	<b>S. Capkun, A. Perrig</b>
252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>	2 hrs	Thu	14-16	HG D3.2 CAB G11	<b>S. Capkun, A. Perrig</b>
252-1414-00 A	System Security	2 hrs				<b>S. Capkun, A. Perrig</b>
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance Computing</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>		
	<i>Number of participants limited to 125.</i>					
263-2800-00 V	Design of Parallel and High-Performance Computing	3 hrs	Mon	13-16	CAB G11	<b>T. Hoefler, M. Püschel</b>
263-2800-00 U	Design of Parallel and High-Performance Computing	2 hrs	Thu	14-16	CHN C14	<b>T. Hoefler, M. Püschel</b>
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>	3 hrs				<b>T. Hoefler, M. Püschel</b>
<b>263-3010-00L</b>	<b>Big Data</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>		
263-3010-00 V	Big Data <i>Online lecture: This lecture will primarily take place online.</i> <i>Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	3 hrs	Tue Wed	14-16 09-10	CAB G61 ML H44	<b>G. Fourny</b>
263-3010-00 U	Big Data <i>Groups are selected in myStudies.</i>	2 hrs	Wed	14-16	CAB G52 HG E33.1 HG G26.1 ON LINE	<b>G. Fourny</b>
			Fri	14-16	CAB G52 ON LINE	
263-3010-00 A	Big Data <i>Individual work to get hands-on experience with the technologies covered, no fixed presence required.</i>	4 hrs				<b>G. Fourny</b>
<b>263-3845-00L</b>	<b>Data Management Systems</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>		
263-3845-00 V	Data Management Systems	3 hrs	Wed Fri	10-12 08-09	CAB G61 HG G3	<b>G. Alonso</b>
263-3845-00 U	Data Management Systems	1 hrs	Fri	09-10	HG D5.1 HG E21 HG G26.1	<b>G. Alonso</b>
263-3845-00 A	Data Management Systems	3 hrs				<b>G. Alonso</b>
<b>263-4640-00L</b>	<b>Network Security</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U+3A</b>		
263-4640-00 V	Network Security	2 hrs	Tue	10-12	HG E1.2	<b>A. Perrig, S. Frei, M. Legner,</b> K. Paterson
263-4640-00 U	Network Security	2 hrs	Thu	16-18	CAB G61	<b>A. Perrig, S. Frei, M. Legner,</b> K. Paterson
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>	3 hrs				<b>A. Perrig, S. Frei, M. Legner,</b> K. Paterson
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>		
263-5902-00 V	Computer Vision	3 hrs	Wed Thu	14-16 12-13	NO C60 HG G5	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 U	Computer Vision	1 hrs	Thu Fri	13-14 13-14	CAB G51 CAB G51	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 A	Computer Vision	3 hrs				<b>M. Pollefeys, S. Tang, F. Yu</b>
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>		
636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00.</i> <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i> <i>In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>	3 hrs	Wed	14-17	HG D3.2	<b>J. Stelling</b>
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>	2 hrs	Fri	10-12	HG D1.2	<b>J. Stelling</b>

#### ▶▶▶▶ Focus Elective Courses General Studies

Number	Title	Type	ECTS	Hours	Lecturers
<b>252-0543-01L</b>	<b>Computer Graphics</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>	
252-0543-01 V	Computer Graphics <i>Does not take place this semester.</i>			3 hrs	

252-0543-01 U	Computer Graphics <i>Does not take place this semester.</i>		2 hrs					
252-0543-01 A	Computer Graphics <i>Does not take place this semester.</i>		2 hrs					
<b>252-0546-00L</b>	<b>Physically-Based Simulation in Computer Graphics</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>				
252-0546-00 V	Physically-Based Simulation in Computer Graphics		2 hrs	Tue	10-12	CAB G51	<b>V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski</b> <b>V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski</b> <b>V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski</b>	
252-0546-00 U	Physically-Based Simulation in Computer Graphics		1 hrs	Tue	16-17	CAB G51		
252-0546-00 A	Physically-Based Simulation in Computer Graphics		1 hrs					
<b>252-0811-00L</b>	<b>Applied Security Laboratory</b>	<b>W</b>	<b>8 credits</b>	<b>7P</b>				
252-0811-00 P	Applied Security Laboratory		7 hrs	Thu	10-13	LEE D101	<b>C. Sprenger</b>	
<b>252-0817-00L</b>	<b>Distributed Systems Laboratory</b>	<b>W</b>	<b>10 credits</b>	<b>9P</b>				
252-0817-00 P	Distributed Systems Laboratory <i>Lab projects are typically carried out in groups of two or three students.</i>		9 hrs	by appt.			<b>G. Alonso, T. Hoefler, A. Klimovic, T. Roscoe, R. Wattenhofer, C. Zhang</b>	
<b>252-1407-00L</b>	<b>Algorithmic Game Theory</b>	<b>W</b>	<b>7 credits</b>	<b>3V+2U+1A</b>				
252-1407-00 V	Algorithmic Game Theory		3 hrs	Fri	10-13	CHN C14	<b>P. Penna</b>	
252-1407-00 U	Algorithmic Game Theory		2 hrs	Tue	10-12	CAB G57 CAB G59	<b>P. Penna</b>	
252-1407-00 A	Algorithmic Game Theory <i>Project Work, no fixed presence required.</i>		1 hrs		16-18	LFW B3	<b>P. Penna</b>	
<b>252-1411-00L</b>	<b>Security of Wireless Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>				
252-1411-00 V	Security of Wireless Networks		2 hrs	Tue	14-16	ML F34	<b>S. Capkun, K. Kostianen</b>	
252-1411-00 U	Security of Wireless Networks		1 hrs	Fri/2w	14-16	CAB E87.2	<b>S. Capkun, K. Kostianen</b>	
252-1411-00 A	Security of Wireless Networks <i>includes a semester long project</i>		2 hrs				<b>S. Capkun, K. Kostianen</b>	
<b>252-1425-00L</b>	<b>Geometry: Combinatorics and Algorithms</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
252-1425-00 V	Geometry: Combinatorics and Algorithms		3 hrs	Mon Thu	13-14 14-16	CAB G51 CAB G51	<b>B. Gärtner, E. Welzl, M. Hoffmann, M. Wettstein</b>	
252-1425-00 U	Geometry: Combinatorics and Algorithms		2 hrs	Mon	14-16 23.09. 16-18 30.09. 16-18	CAB G51 CAB G51 CAB G51	<b>B. Gärtner, E. Welzl, M. Hoffmann, M. Wettstein</b>	
252-1425-00 A	Geometry: Combinatorics and Algorithms <i>Project Work, no fixed presence required.</i>		2 hrs				<b>B. Gärtner, E. Welzl, M. Hoffmann, M. Wettstein</b>	
<b>227-2210-00L</b>	<b>Computer Architecture</b>	<b>W</b>	<b>8 credits</b>	<b>6G+1A</b>				
227-2210-00 G	Computer Architecture <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		6 hrs	Thu Fri	13-16 13-16	HG D16.2 HG D16.2	<b>O. Mutlu</b>	
227-2210-00 A	Computer Architecture		1 hrs				<b>O. Mutlu</b>	
<b>263-2400-00L</b>	<b>Reliable and Trustworthy Artificial Intelligence</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U+1A</b>				
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Wed	14-16	HG G3	<b>M. Vechev</b>	
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Mon Wed	12-14 12-14	CAB G56 CAB G51	<b>M. Vechev</b>	
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence		1 hrs				<b>M. Vechev</b>	
<b>252-3005-00L</b>	<b>Natural Language Processing</b> <i>Number of participants limited to 400.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>				
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>		2 hrs	Mon	12-14	HG F7	<b>R. Cotterell</b>	
252-3005-00 U	Natural Language Processing		2 hrs	Wed	12-14	HG F7	<b>R. Cotterell</b>	
252-3005-00 A	Natural Language Processing		1 hrs				<b>R. Cotterell</b>	
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-3210-00 V	Deep Learning		3 hrs	Wed Thu	13-14 14-16	ML D28 ML D28	<b>F. Perez Cruz, A. Lucchi</b>	
263-3210-00 U	Deep Learning		2 hrs	Mon Wed	16-18 16-18	HG G5 ML D28	<b>F. Perez Cruz, A. Lucchi</b>	
263-3210-00 A	Deep Learning		2 hrs				<b>F. Perez Cruz, A. Lucchi</b>	
<b>263-3850-00L</b>	<b>Informal Methods</b>	<b>W</b>	<b>5 credits</b>	<b>2G+2A</b>				
263-3850-00 G	Informal Methods		2 hrs	Thu	10-12	CAB G59	<b>D. Cock</b>	
263-3850-00 A	Informal Methods		2 hrs				<b>D. Cock</b>	

<b>263-4500-00L</b>	<b>Advanced Algorithms</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>					
263-4500-00 V	Advanced Algorithms <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Wed	09-12	HG D5.2	<b>M. Ghaffari, G. Zuzic</b>	
263-4500-00 U	Advanced Algorithms			2 hrs	Fri	10-12	CAB G59	<b>M. Ghaffari, G. Zuzic</b>	
263-4500-00 A	Advanced Algorithms			3 hrs				<b>M. Ghaffari, G. Zuzic</b>	
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>			3 hrs	Fri	10-12	ETA F5 ETF E1	<b>A. Krause</b>	
						13-14	ETA F5 ETF E1		
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>			2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>	
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs				<b>A. Krause</b>	
<b>263-5905-00L</b>	<b>Mixed Reality</b>	<b>W</b>	<b>5 credits</b>	<b>3G+1A</b>					
263-5905-00 G	Mixed Reality			3 hrs	Mon	10-13	CAB G11	<b>I. Armeni, F. Bogo, M. Pollefeys</b>	
263-5905-00 A	Mixed Reality			1 hrs				<b>I. Armeni, F. Bogo, M. Pollefeys</b>	
<b>261-5100-00L</b>	<b>Computational Biomedicine</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>					
	<i>Number of participants limited to 120.</i>								
261-5100-00 V	Computational Biomedicine <i>Online lecture: This lecture will take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>			2 hrs	Tue	10-12	ML F39	<b>V. Boeva, G. Rätsch</b>	
261-5100-00 U	Computational Biomedicine <i>Online lecture: This lecture will take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>			1 hrs	Tue	13-14	ML F39	<b>V. Boeva, G. Rätsch</b>	
261-5100-00 A	Computational Biomedicine			1 hrs				<b>V. Boeva, G. Rätsch</b>	
<b>227-0575-00L</b>	<b>Advanced Topics in Communication Networks</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0575-00 V	Advanced Topics in Communication Networks			2 hrs	Tue	14-16	ML E12	<b>L. Vanbever</b>	
227-0575-00 U	Advanced Topics in Communication Networks			2 hrs	Tue	16-18	ML E12	<b>L. Vanbever</b>	
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>					
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	<b>R. Zenklusen</b>	
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>			2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>	
<b>636-0017-00L</b>	<b>Computational Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>					
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>			3 hrs	Mon	16-18	BSA E46 HG D16.2	<b>T. Vaughan</b>	
					Thu	18-19 12-13	HG D16.2 BSA E46		
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>			2 hrs				<b>T. Vaughan</b>	

## ▶▶▶▶ Seminar in General Studies

Number	Title	Type	ECTS	Hours	Lecturers				
<b>252-4601-00L</b>	<b>Current Topics in Information Security</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
	<i>Number of participants limited to 24.</i>								
	<i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>								
252-4601-00 S	Current Topics in Information Security <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	14-16	CAB G57	<b>S. Capkun, K. Paterson, A. Perrig, S. Shinde</b>	
<b>252-5051-00L</b>	<b>Advanced Topics in Machine Learning</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
	<i>Number of participants limited to 40.</i>								
	<i>The deadline for deregistering expires at the end of the fourth week of the semester. Students who are still registered after that</i>								

252-5051-00 S	Advanced Topics in Machine Learning ■	2 hrs	Tue Thu	16-18 16-18	CAB G56 CAB G57	J. M. Buhmann, R. Cotterell, J. Vogt, F. Yang
<b>252-5701-00L</b>	<b>Advanced Topics in Computer Graphics and Vision</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the third week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
252-5701-00 S	Advanced Topics in Computer Graphics and Vision	2 hrs	Thu	14-16	CAB G56	M. Pollefeys, O. Sorkine Hornung, S. Tang
<b>263-2100-00L</b>	<b>Research Topics in Software Engineering</b> <i>Number of participants limited to 22.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
263-2100-00 S	Research Topics in Software Engineering <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Tue	14-16	CHN G46	P. Müller, M. Püschel
<b>263-3504-00L</b>	<b>Hardware Acceleration for Data Processing</b> <i>Number of participants limited to 24.</i>  <i>The deadline for deregistering expires at the end of the second week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
263-3504-00 S	Hardware Acceleration for Data Processing <i>Online seminar: This seminar will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Tue	14-16	ML J34.1	G. Alonso
<b>263-3713-00L</b>	<b>Advanced Topics in Human-Centric Computer Vision</b> <i>Numbers of participants limited to 20.</i>  <i>The deadline for deregistering expires at the end of the third week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
263-3713-00 S	Advanced Topics in Human-Centric Computer Vision	2 hrs	Thu	16-18	CAB G52	O. Hilliges

## ►► Computer Science Elective Courses

*The Elective Computer Science Courses can be selected from all Master level courses offered by D-INFK.*

Number	Title	Type	ECTS	Hours	Lecturers	
<b>252-0293-00L</b>	<b>Wireless Networking and Mobile Computing</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
252-0293-00 V	Wireless Networking and Mobile Computing			2 hrs	Mon	16-18
252-0293-00 U	Wireless Networking and Mobile Computing			1 hrs	Mon	18-19
<b>263-0600-00L</b>	<b>Research in Computer Science</b> <i>Only for Computer Science MSc.</i>	<b>W</b>	<b>5 credits</b>	<b>11A</b>		
263-0600-00 A	Research in Computer Science			150s hrs	by appt.	Professors
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
227-0423-00 V	Neural Network Theory			2 hrs	Tue	10-12
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on: <a href="https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html">https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html</a>. The reserved room is meant for those students who want to follow the course from the campus.</i>			1 hrs	Tue	12-13

## ►► Internship

Number	Title	Type	ECTS	Hours	Lecturers	
<b>252-0700-00L</b>	<b>Internship</b> <i>Only for Computer Science MSc.</i>	<b>W</b>	<b>0 credits</b>			
252-0700-00 P	Industriepraktikum					external organisers

## ►► Elective Courses (only for Programme Regulations 2009)

*Students can individually chose from the entire Master course offerings from ETH Zurich, EPF Lausanne, the University of Zurich and - but only with the consent of the Director of Studies - from all other Swiss universities.*

For further details, refer to Art. 31 of the Regulations 2009 for the Master Program in Computer Science.

Number	Title	Type	ECTS	Hours	Lecturers
<b>263-0610-00L</b>	<b>Direct Doctorate Research Project</b> <i>Only for Direct Doctorate Students</i>	<b>O</b>	<b>15 credits</b>	<b>23A</b>	
263-0610-00 A	Direct Doctorate Research Project			320s hrs	Professors
<b>263-0620-00L</b>	<b>Direct Doctorate Research Plan</b> <i>Only for Direct Doctorate Students</i>	<b>O</b>	<b>15 credits</b>	<b>23A</b>	
263-0620-00 A	Direct Doctorate Research Plan			320s hrs	Professors

### ► Interfocus Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>263-0006-00L</b>	<b>Algorithms Lab</b> <i>Only for master students!</i>	<b>O</b>	<b>8 credits</b>	<b>4P+3A</b>	
263-0006-00 P	Algorithms Lab			4 hrs Mon 14-16 Tue 16-18 Wed 16-18 Thu 16-18 CAB H57 HG E26.1 HG E26.3 ML H34.3 CAB G11 ML H34.3	<b>A. Steger, E. Welzl</b>
263-0006-00 A	Algorithms Lab <i>Project Work, no fixed presence required.</i>			3 hrs	<b>A. Steger, E. Welzl</b>
<b>263-0009-00L</b>	<b>Information Security Lab</b> <i>Only for master students!</i> <i>Number of participants limited to 250.</i>	<b>O</b>	<b>8 credits</b>	<b>2V+1U+3P+1A</b>	
263-0009-00 V	Information Security Lab			2 hrs Mon 16-18 ML D28	<b>K. Paterson, S. Capkun, D. Hofheinz, A. Perrig, S. Shinde</b>
263-0009-00 U	Information Security Lab			1 hrs Tue 16-17 Wed 08-09 CHN F46 CAB G11	<b>K. Paterson, S. Capkun, D. Hofheinz, A. Perrig, S. Shinde</b>
263-0009-00 P	Information Security Lab			3 hrs Thu 16-19 CAB H56 CAB H57 CHN E42 CHN G42 ETZ E6	<b>K. Paterson, S. Capkun, D. Hofheinz, A. Perrig, S. Shinde</b>
263-0009-00 A	Information Security Lab			1 hrs	<b>K. Paterson, S. Capkun, D. Hofheinz, A. Perrig, S. Shinde</b>

### ► GESS Science in Perspective

*see GESS Science in Perspective:  
Language Courses ETH/USZ*

*see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended GESS Science in  
Perspective (Type B) for D-INFK.*

### ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>263-0800-00L</b>	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling any additional requirements necessary to gain admission to the master programme;</i> <i>c. "Inter focus courses" (12 credits) completed;</i> <i>d. "Focus courses" (26 credits) completed.</i>	<b>O</b>	<b>30 credits</b>	<b>64D</b>	
263-0800-00 D	Master's Thesis ■			900s hrs by appt.	Supervisors

### Computer Science Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate



#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Integrated Building Systems Master

## ► Main Courses

## ►► Fundamental Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-1633-00L</b>	<b>Energy Conversion</b> <i>This course is intended for students outside of D-MAVT.</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-1633-00 G	Energy Conversion			3 hrs	Mon	10-13	NO C6	<b>I. Karlin, G. Sansavini</b>
<b>401-0203-00L</b>	<b>Mathematics</b>	<b>W</b>	<b>4 credits</b>	<b>3V+1U</b>				
401-0203-00 V	Mathematics <i>In some weeks, the lecture is planned Mon 16-18 instead of Mon 16-17 (details to be announced by the lecturer).</i>			3 hrs	Mon Tue	16-17 12-14	HG G26.3 HG G26.3	<b>C. Busch</b>
401-0203-00 U	Mathematics <i>In some weeks, the lecture is planned Mon 16-18 instead of Mon 16-17, so that the exercise session will be shifted to Fri 13-14 (details to be announced by the lecturer).</i>			1 hrs	Mon Fri/2w	17-18 13-14	HG G26.3 HG G26.3	<b>C. Busch</b>
<b>066-0427-00L</b>	<b>Design and Building Process MIBS</b> <i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE. ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a></i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
066-0427-00 V	Design and Building Process MIBS <i>No course on 26.10. (seminar week).</i>			2 hrs	Tue	08-10	HCP E47.2	<b>A. Paulus</b>
<b>103-0317-00L</b>	<b>Introduction to Spatial Development and Transformation</b> <i>Only for master students, otherwise a special permission by the lecturer is required.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
103-0317-00 G	Introduction to Spatial Development and Transformation			2 hrs	Tue	10-12	HIL E6	<b>M. Nollert, D. Kaufmann</b>

## ►► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>101-0527-10L</b>	<b>Materials and Constructions</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
101-0527-10 G	Materials and Constructions			2 hrs	Mon	08-10	HIL D10.2	<b>G. Habert, D. Sanz Pont</b>
<b>151-8011-00L</b>	<b>Building Physics: Theory and Applications</b> <i>Enrolment after agreement with the lecturer only.</i>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>				
151-8011-00 V	Building Physics: Theory and Applications <i>Permission from lecturers required for all students No course on 27.10.2021 (seminar week).</i>			3 hrs	Wed	13-16	HIL D10.2	<b>A. Kubilay, X. Zhou</b>
151-8011-00 U	Building Physics: Theory and Applications <i>Permission from lecturers required for all students No course on 27.10.2021 (seminar week). Online event: This event will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there</i>			1 hrs	Wed	17-18	HIL D10.2	<b>X. Zhou, L. D'Amato, A. Kubilay, A. Rubin, D. A. Strebel</b>
<b>363-0389-00L</b>	<b>Technology and Innovation Management</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
363-0389-00 G	Technology and Innovation Management <i>The lecture takes place in classroom, online via zoom and recorded.</i>			2 hrs	Mon 27.09.	14-16 14-16	NO C60 HG D1.2	<b>S. Brusoni, A. Zeijen</b>
<b>363-0503-00L</b>	<b>Principles of Microeconomics</b> <i>GESS (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L Einführung in die Mikroökonomie.</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
363-0503-00 G	Principles of Microeconomics <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	18-20	HG F7	<b>M. Filippini</b>
<b>066-0423-00L</b>	<b>Application of CFD in Buildings</b> <i>Limited number of participants. Enrolment is only possible in agreement with the chair.</i>	<b>W</b>	<b>3 credits</b>	<b>3V</b>				
066-0423-00 V	Application of CFD in Buildings <i>Permission from lecturers required for all students No course on 28.10. (seminar week)</i>			3 hrs	Thu	16-19	HCP E47.2	<b>D. Lakehal</b>
<b>151-8007-00L</b>	<b>Urban Physics</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>				
151-8007-00 G	Urban Physics <i>No course on 28.10 (seminar week) and no course on 23.12.2021.</i>			3 hrs	Thu	13-16	HIL E9	<b>J. Carmeliet, D. W. Brunner, A. Rubin, C. Schär, D. A. Strebel, H. Wernli, J. M. Wunderli, Y. Zhao</b>

<b>066-0421-00L</b>	<b>Building Systems I</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>						
066-0421-00 G	Building Systems I <i>No course on 27.10. (seminar week).</i>			3 hrs	Wed	09-12	HCI E8	<b>A. Schlüter</b> , L. Baldini, I. Hischier, F. Khayatian, M. Sulzer		
<b>101-0524-00L</b>	<b>Lean, Integrated and Digital Project Delivery</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>						
101-0524-00 G	Lean, Integrated and Digital Project Delivery			3 hrs	Mon 04.10. 11.10.	16-19 16-19 16-19	HPV G5 HIT E51 HIT E51	<b>D. Hall</b>		
<b>101-0608-00L</b>	<b>Design-Integrated Life Cycle Assessment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>						
101-0608-00 G	Design-Integrated Life Cycle Assessment <i>Former title: Building Materials and Sustainability</i>			2 hrs	Tue	14-16	HPT C103	<b>G. Habert</b>		
<b>151-0209-00L</b>	<b>Renewable Energy Technologies</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>						
151-0209-00 G	Renewable Energy Technologies <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue	14-17	HG G5	<b>A. Steinfeld</b> , E. I. M. Casati		
<b>101-0123-00L</b>	<b>Structural Design</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>						
101-0123-00 G	Structural Design			2 hrs	Thu	10-12	HPT C103	<b>P. Ohlbrock</b> , P. Block, J. Schwartz		
<b>529-0010-00L</b>	<b>Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>						
529-0010-00 V	Chemie <i>Do 10-12 im ETA F 5 mit Videoübertragung im ETF E 1</i>			2 hrs	Thu	10-12	ETA F5 ETF E1	<b>A. de Mello</b> , C. Mondelli, D. J. Norris, S. Stavrakis		
529-0010-00 U	Chemie <i>Groups are selected in myStudies. Bitte melden Sie sich für die Übungsgruppen auf mystudies an. Eine englischsprachige Gruppe wird für die Studierenden des Masterstudiengangs in Integrated Building Systems angeboten (HIL E 5). Übungslektionen beginnen nach der zweiten Vorlesung.  Please subscribe to the exercise groups in mystudies. An English-speaking group is offered to the students of the Master course in Integrated Building Systems (HIL E 5). Problem classes start after Lecture 2.  Zusätzlich wird das Study Center angeboten: Mittwochs 18-20 Uhr ab der 3. Semesterwoche im HG E1.2, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>			1 hrs	Fri	10-12 14-15	HIL E5 CAB G59 CHN E46 CHN F42 CLA E4 IFW C33 LEE C114 LEE D101 LFV E41 LFW B3 LFW C1 LFW C5 ML H41.1 ML J34.1	<b>F. Jenny</b>		

## ►► Specialised Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0185-00L</b>	<b>Radiation Heat Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0185-00 V	Radiation Heat Transfer <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	10-12	ML F39	<b>A. Steinfeld</b> , P. Pozivil	
151-0185-00 U	Radiation Heat Transfer <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			1 hrs	Thu	12-13	ML F39	<b>A. Steinfeld</b> , P. Pozivil	
<b>151-0103-00L</b>	<b>Fluid Dynamics II</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>					
151-0103-00 V	Fluidodynamik II <i>In der 1. und 2. Semesterwoche findet am Dienstag 11-12 h jeweils eine Vorlesung, anstelle von Übungen, statt (Ort: ETF C 1).</i>			2 hrs	Mon 21.09. 28.09.	10-12 11-12 11-12	HG E7 ETF C1 ETF C1	<b>P. Jenny</b>	
151-0103-00 U	Fluidodynamik II <i>Groups are selected in myStudies. Die Übungen beginnen in der 3. Semesterwoche.</i>			1 hrs	Tue	11-12	CAB G61 HG D1.1 IFW A36	<b>P. Jenny</b>	
<b>401-0647-00L</b>	<b>Introduction to Mathematical Optimization</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0647-00 V	Introduction to Mathematical Optimization			2 hrs	Tue	16-18	HG F5	<b>D. Adjashvili</b>	
401-0647-00 U	Introduction to Mathematical Optimization <i>Groups are selected in myStudies. Wed 12-13 or Wed 16-17</i>			1 hrs	Wed	12-13 16-17	HG D1.2 IFW A36 ON LINE	<b>D. Adjashvili</b>	
<b>227-0477-00L</b>	<b>Acoustics I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0477-00 G	Acoustics I			4 hrs	Mon	14-18	ETZ E7	<b>K. Heutschi</b>	
<b>101-0577-00L</b>	<b>An Introduction to Sustainable Development in the Built Environment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0577-00 G	An Introduction to Sustainable Development in the Built Environment			2 hrs	Tue	16-18	HIL E4	<b>G. Habert</b> , D. Kaushal	
<b>101-0417-00L</b>	<b>Transport Planning Methods</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					

101-0417-00 G	Transport Planning Methods			4 hrs	Mon Wed 22.09. 27.09. 29.09. 04.10. 06.10.	10-12 10-12 10-12 10-12 10-12 10-12 10-12	HIL F36.1 HIL F36.1 HCP E47.1 HIL F10.3 HCP E47.1 HIL F10.3 HCP E47.1	K. W. Axhausen
101-0507-00L	Infrastructure Management 3: Optimisation Tools	W	6 credits	2G				
101-0507-00 G	Infrastructure Management 3: Optimisation Tools <i>Does not take place this semester. Next time in HS22.</i>			2 hrs				B. T. Adey
363-0387-00L	Corporate Sustainability	W	3 credits	2G				
363-0387-00 G	Corporate Sustainability <i>The course combines online learning elements and live sessions, some of which are recorded. Several course sessions require live attendance. Details are provided on the moodle course page.</i>			2 hrs	Wed/2  Wed Wed/2	16-18  16-18 16-18	HG E21 HG E22 HG F3 ML E12	V. Hoffmann, C. Bening-Bach, N. U. Blum, J. Meuer
402-0809-01L	Introduction to Computational Physics (for Civil Engineers)	W	4 credits	2V+1U				
402-0809-00 V	Introduction to Computational Physics			2 hrs	Tue	10-12	HCI J7	A. Adelman
402-0809-01 U	Introduction to Computational Physics			1 hrs	Tue	08-10	HIT F21	A. Adelman
402-0809-00L	Introduction to Computational Physics	W	8 credits	2V+2U				
402-0809-00 V	Introduction to Computational Physics			2 hrs	Tue	10-12	HCI J7	A. Adelman
402-0809-00 U	Introduction to Computational Physics			2 hrs	Tue	08-10	HCI J7	A. Adelman
101-0187-00L	Structural Reliability and Risk Analysis	W	3 credits	2G				
101-0187-00 G	Structural Reliability and Risk Analysis			2 hrs	Fri	10-12	HCI J6	S. Marelli
701-1346-00L	Carbon Mitigation <i>Number of participants limited to 90. Priority is given to the target groups: Bachelor and Master Environmental Sciences and PHD Environmental Sciences until September 21st,2021. Waiting list will be deleted October 1st, 2021.</i>	W	3 credits	2G				
701-1346-00 G	Carbon Mitigation			2 hrs	Mon	10-12	CHN C14	N. Gruber
363-0537-00L	Resource and Environmental Economics	W	3 credits	2G				
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Wed	10-12	HG G3	L. Bretschger
363-0565-00L	Principles of Macroeconomics	W	3 credits	2V				
363-0565-00 V	Principles of Macroeconomics <i>Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Tue	16-18	ETA F5 ETF E1	J.-E. Sturm
101-0587-00L	Workshop on Sustainable Building Certification <i>Number of participants limited to 25</i>	W	3 credits	2G				
101-0587-00 G	Workshop on Sustainable Building Certification			2 hrs	Fri	10-12	HCP E47.1	D. Kellenberger
063-0611-00L	The Digital in Architecture II (Exercise) <i>Prerequisite: Successful completion of the course "Structural Design VI" (063-0606-00L), "Design III" (052-0541/43/45) or "Das Digitale in der Architektur" (063-0610-00L). This core course (ending with «00L») can only be passed once! Please check before signing up.</i>	W	2 credits	1V+2U				
	<i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE. ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a></i>							
063-0611-00 V	The Digital in Architecture II <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			1 hrs	Thu	16-17	HIB D13.1	J. Medina Ibañez
063-0611-00 U	The Digital in Architecture II (Exercise) <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	17-19	HIB D13.1	J. Medina Ibañez
252-0839-00L	Informatics	W	2 credits	2G				

252-0839-00 G	Einsatz von Informatikmitteln Vorlesung: Fr 14-16 Uhr Individuelle Präsentation Projektaufgaben: restliche Zeiten alle 2 Wochen nach Voranmeldung			2 hrs	Mon	18-19	HG E19 HG E26.3 HG E27 HG E19 HG E26.1 HG E26.3 HG E27 HG F7 HG E19 HG E26.1 HG E26.3 HG E27	L. E. Fässler, M. Dahinden
101-0007-00L	Project Management for Construction Projects	W	4 credits	3S				
101-0007-00 S	Project Management for Construction Projects ■ Online seminar: This seminar will primarily take place online (Zoom). Reserved rooms will remain blocked on campus for students to follow the seminar from there. The only exception will be the SkyRail exercises in December (2 groups: 10.12. or 17.12. from 12-17) which will be held face to face.			3 hrs	Fri	13-16 10.12. 11-17 17.12. 11-17	HCI J7 HIT E51 HIT E51	J. J. Hoffman
851-0589-00L	Technology and Innovation for Development	W	3 credits	2V				
851-0589-00 V	Technology and Innovation for Development			2 hrs	Tue	12-14	LEE D101	P. Aerni
701-0901-00L	ETH Week 2021: Health for Tomorrow All ETH Bachelor's, Master's and exchange students can take part in the ETH week. No prior knowledge is required	W	1 credit	3S				
701-0901-00 S	ETH Week 2021: Health for Tomorrow ■ The ETH Week 2021 takes place from Sept. 12-17. The program is open to Bachelor and Master students from all ETH Departments. All students must apply through a competitive application process at www.ethz.ch/ethweek. Participation is subject to successful selection through this competitive process.			45s hrs				C. Bratrach, S. Brusoni, A. Burden, A. Cabello Llamas, R. Knutti, I. Mansuy, F. Rittiner, A. Vaterlaus, C. Wolfrum
376-1177-00L	Human Factors I	W	3 credits	2V				
376-1177-00 V	Human Factors I			2 hrs	Tue	14-16	HG G3	M. Menozzi Jäckli, R. Huang, M. Siegrist
363-1065-00L	Design Thinking: Human-Centred Solutions to Real World Challenges	W	5 credits	5G				
363-1065-00 G	Design Thinking: Human-Centred Solutions to Real World Challenges Does not take place this semester. From FS22 in the spring semester.			5 hrs				S. Brusoni
063-0803-01L	History and Theory in Architecture IX (Avermaete) This core course (ends with «01L») can only be passed once! Please check this before signing up.	W	1 credit	1V				
063-0803-01 V	History and Theory in Architecture IX (Avermaete) No course on 29.10. (seminar week) and 17./24.12. (before final critics).			1 hrs	Fri	09-10	HIL E1	T. Avermaete, H. Teerds
103-0569-00L	European Aspects of Spatial Development	W	3 credits	2G				
103-0569-00 G	European Aspects of Spatial Development Online lecture: This lecture will primarily take place online. Reserved rooms will remain available for students to follow the seminar from there.			2 hrs	Tue	16-18	HIL D53	A. Peric Momcilovic
851-0252-08L	Evidence-Based Design: Methods and Tools For Evaluating Architectural Design Number of participants limited to 40  Particularly suitable for students of D-ARCH	W	3 credits	2S				
851-0252-08 S	Evidence-Based Design: Methods and Tools For Evaluating Architectural Design			2 hrs	Fri	10-12	HIL E10.1	M. Gath Morad, C. Hölscher, L. Narvaez Zertuche, C. Veddeleer
252-0834-00L	Information Systems for Engineers	W	4 credits	2V+1U				
252-0834-00 V	Information Systems for Engineers Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.			2 hrs	Fri	14-16	HG E5	G. Fourny
252-0834-00 U	Information Systems for Engineers Groups are selected in myStudies.			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE	G. Fourny
052-0707-00L	Urban Design III	W	2 credits	2V				

052-0707-00 V	Urban Design III <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>		2 hrs	Thu	08-10	ONA E7	H. Klumpner, M. Fessel
<b>051-0911-21L</b>	<b>Seminar Week Autumn Semester 2021</b>	<b>W</b>	<b>2 credits</b>	<b>3A</b>			
051-0911-21 A	Seminarwoche Herbstsemester 2021 <i>Seminarwoche vom 25.-29.10.2021. Die Programme werden zu Beginn des Semesters publiziert.</i>		40s hrs				Lecturers
<b>063-0607-00L</b>	<b>Energy- and Climate Systems III</b> <i>This core course (ending with «00L») can only be passed once! Please check before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			
	<i>ITA Pool - information event on the courses offered at the institute ITA: Wednesday 8th September 2021, 10-11 h, ONLINE. ZoomLink: <a href="https://ethz.zoom.us/j/66588100789">https://ethz.zoom.us/j/66588100789</a></i>						
063-0607-00 V	Energy- and Climate Systems III <i>No course on 29.10. (seminar week) and 17./24.12. (before final critiques).</i>		2 hrs	Fri	08-10	HIL E7	A. Schlüter, C. Waibel
<b>151-3209-00L</b>	<b>Engineering Design Optimization</b> <i>Number of participants limited to 60.</i>	<b>W</b>	<b>4 credits</b>	<b>4G</b>			
151-3209-00 G	Engineering Design Optimization <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		4 hrs	Wed	08-12	ETZ E8	K. Shea, T. Stankovic
<b>101-0139-00L</b>	<b>Scientific Machine and Deep Learning for Design and Construction in Civil Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>4G</b>			
101-0139-00 G	Scientific Machine and Deep Learning for Design and Construction in Civil Engineering <i>14-16 theory 16-18 group work</i>		4 hrs	Mon	14-18	HPK D3	M. A. Kraus, D. Griego
<b>052-0639-00L</b>	<b>Climate Responsive Architecture with Hive</b>	<b>W</b>	<b>1 credit</b>	<b>2G</b>			
052-0639-00 G	Climate Responsive Architecture with Hive		30s hrs				A. Schlüter
<b>851-0096-00L</b>	<b>Science in Society</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>			
851-0096-00 G	Wissenschaft in der Gesellschaft		2 hrs	Thu	12-14	IFW A32.1	L. Wingert
<b>102-0327-01L</b>	<b>Implementation of Environmental and Other Sustainability Goals</b> <i>Master students in Environmental Engineering choosing module Ecological Systems Design are not allowed to enrol 102-0327-01 Advanced Environmental Assessments (2KP) as already included in 102-0307-01 Advanced Environmental, Social and Economic Assessments (5KP).</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>			
102-0327-01 G	Implementation of Environmental and Other Sustainability Goals <i>Remark: No course on 26.10.2021. The course will be instead on 02.11.2021 (room will be announced later on).</i>		21s hrs	Tue/2w	09-12	HIL E9	A. E. Braunschweig

#### ► Project Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>066-0425-00L</b>	<b>Integrated Design MIBS</b>	<b>W</b>	<b>6 credits</b>	<b>3V+3U</b>				
066-0425-00 V	Integrated Design MIBS ■ <i>No course on 27.10. (seminar week).</i>			3 hrs	Wed	10-13	HIB E31	A. Schlüter
066-0425-00 U	Integrated Design MIBS ■ <i>No course on 27.10. (seminar week).</i>			3 hrs	Wed	13-16	HIB E31	A. Schlüter

#### ► Semester Project

Number	Title	Type	ECTS	Hours				Lecturers
<b>066-0431-00L</b>	<b>Semester Project MIBS</b> <i>The semester project can commence only after the first year of coursework is completed.</i>	<b>O</b>	<b>6 credits</b>	<b>13A</b>				
066-0431-00 A	Semester Project MIBS ■ <i>Tutors for your semester project (select out of): <a href="https://master-buildingsystems.ethz.ch/program/tutors.html">https://master-buildingsystems.ethz.ch/program/tutors.html</a></i>			180s hrs	by appt.			Supervisors

#### ► GESS Science in Perspective

Number	Title	Type	ECTS	Hours				Lecturers
	<i>see GESS Science in Perspective: Language Courses ETH/UZH</i>							
	<i>see GESS Science in Perspective: Type A: Enhancement of Reflection Capability</i>							
	<i>Recommended GESS Science in</i>							

052-0801-00L	Global History of Urban Design I	W	2 credits	2G					
052-0801-00 G	Global History of Urban Design I No course on 28.10. (seminar week) 16./23.12. (before final critiques).			2 hrs	Thu	10-12	HIL E4	T. Avermaete	
851-0609-06L	Governing the Energy Transition Primarily suited for Master and PhD level.	W	2 credits	2V					
851-0609-06 V	Governing the Energy Transition			2 hrs	Thu	16-18	NO C60	T. Schmidt, N. Schmid, S. Sewerin	
351-0555-00L	Open- and User Innovation	W	3 credits	2G					
351-0555-00 G	Open- and User Innovation Block course The Kick-off event will take place ONLINE, 22.09.2021 from 14.00 - 16.00.			23s hrs	22.09. 25.10. 26.10. 27.10.	14-16 09-17 09-17 09-17	ON LINE ML H37.1 ML H37.1 ML H37.1	S. Häfliger, S. Spaeth	
860-0023-00L	International Environmental Politics Particularly suitable for students of D-ITET, D-USYS	W	3 credits	2V					
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3	T. Bernauer	
851-0101-74L	Sustainable Development - Bridging Art and Science	W	3 credits	2G					
851-0101-74 G	Sustainable Development - Bridging Art and Science Unregelmässige Lehrveranstaltung			28s hrs	Wed	14-16	RZ F21	L. Hensgen, S. Patel	
851-0252-01L	Human-Computer Interaction: Cognition and Usability Number of participants limited to 35.	W	3 credits	2S					
851-0252-01 S	Human-Computer Interaction: Cognition and Usability The lecturers will communicate the exact lesson times of ONLINE courses.			2 hrs	Mon	14-16	ON LINE	H. Zhao, S. Credé, C. Hölscher	
363-0311-00L	Psychological Aspects of Risk Management and Technology Number of participants limited to 65.	W	3 credits	2V					
363-0311-00 V	Psychological Aspects of Risk Management and Technology			2 hrs	Wed	16-18	LFW B1	G. Grote, N. Bienefeld-Seall, J. Schmutz, R. Schneider, M. Zumbühl	
851-0742-00L	Contract Design I This course is taught by Professor Alexander Stremitzer (https://laweconbusiness.ethz.ch/group/professor/stremitzer.html). Note that this is NOT a legal drafting class that focuses on contractual language. Instead, in Contract Design I, you will learn what the content of a contract should be so that parties can reach their goals.	W	3 credits	2V					
851-0742-00 V	Contract Design I The course is going to take place twice a week (Monday and Thursday) during the first half of the Semester.			28s hrs	Mon/1 Thu/1	16-18 12-14	ETF E1 ETF E1	A. Stremitzer	
851-0252-15L	Network Analysis Particularly suitable for students of D-INFK, D-MATH	W	3 credits	2V					
851-0252-15 V	Network Analysis			2 hrs	Wed	18-20	ML F36	U. Brandes	
851-0101-86L	Complex Social Systems: Modeling Agents, Learning, and Games Number of participants limited to 100.	W	3 credits	2S					
851-0101-86 S	Complex Social Systems: Modeling Agents, Learning, and Games Prerequisites: Basic programming skills, elementary probability and statistics.			2 hrs	Mon	16-18	HG D7.2	N. Antulov-Fantulin, T. Asikis, D. Helbing	

851-0467-00L	<b>From Traffic Modeling to Smart Cities and Digital Democracies</b> <i>Number of participants limited to 50.</i>	W	3 credits	2S					
851-0467-00 S	From Traffic Modeling to Smart Cities and Digital Democracies <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	18-20	IFW A32.1	<b>D. Helbing, S. Mahajan</b>	

### ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers				
066-0434-00L	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>  <i>Master thesis are supervised and reviewed by one or several professors and possibly by other persons at the same time. At least one professor has to be a member of a department involved in the study programme (article 2). This regulation is also valid for master thesis taking place outside ETH Zurich.</i>	O	30 credits	40D					
066-0434-00 D	Master's Thesis ■			40 hrs	by appt.	Professors			

### ► Course Units for Additional Admission Requirements

*The courses below are only available for MSc students with additional admission requirements.*

Number	Title	Type	ECTS	Hours	Lecturers				
101-0414-AAL	<b>Transport Planning (Transportation I)</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R					
101-0414-AA R	Transport Planning (Transportation I) <i>Self-study course. No presence required.</i>			90s hrs	<b>K. W. Axhausen</b>				

### Integrated Building Systems Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.



# Interdisciplinary Sciences Bachelor

## ► Physical-Chemical Direction

### ►► 1. Semester (Physical-Chemical Direction)

#### ►►► Compulsory Subjects First Year Examinations

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-1261-07L</b>	<b>Analysis I: One Variable</b>	<b>O</b>	<b>10 credits</b>	<b>6V+3U</b>					
401-1261-07 V	Analysis I: eine Variable <i>Mi im HG F1 mit Videoübertragung ins HG F3. Mo und Do im ETA F 5 mit Videoübertragung im ETF E 1</i>			6 hrs	Mon	08-10	ETA F5 ETF E1		<b>M. Einsiedler</b>
					Wed	08-10	HG F1 HG F3		
					Thu	08-10	ETA F5 ETF E1		
401-1261-07 U	Analysis I: eine Variable <i>Groups are selected in myStudies. Übungen Fr 8-10 (Studiengänge Mathematik bzw. Physik) oder Fr 12-14. Dritte Übungsstunde Mi 12-13 oder Mi 13-14 gemäss Gruppeneinteilung. Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>			3 hrs	Wed	12-13	HG E33.1 HG E33.3 HG E33.5 HG F26.5 ML F34 ML F38 ML F40 ML H41.1 ML J34.1 ML J34.3		<b>M. Einsiedler</b>
						13-14	HG E33.1 HG E33.3 HG E33.5 HG F26.5 ML F34 ML F38 ML F40 ML H41.1 ML J34.1 ML J34.3		
					Fri	08-10	CAB G52 CAB G56 CHN D44 CHN D46 CHN D48 CLA E4 ETZ H91 HG G26.3 IFW A34 IFW C31 IFW C33 LEE C104 LEE C114 LEE D101 LEE D105 LFW B3 ML J34.1 ML J34.3 ML J37.1 HCI H8.1		
						12-14			
<b>401-1151-00L</b>	<b>Linear Algebra I</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>					
401-1151-00 V	Lineare Algebra I <i>Vorlesung im HG F7 mit Videoübertragung ins HG F5.</i>			4 hrs	Mon	10-12	HG F5 HG F7		<b>R. Pink</b>
					Wed	14-16	HG F5 HG F7		
401-1151-00 U	Lineare Algebra I <i>Groups are selected in myStudies. Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>			2 hrs	Mon	14-16	CAB G56 CAB G59 CHN D42 CHN D48 CHN G22 HG D5.2 HG E33.1 HG E33.5 HG G26.3 IFW C31 IFW C33 LEE C104 LEE D101 LFW C11 LFW E13 ML F39 ML H41.1 ML J34.3 ML J37.1 RZ F21		<b>R. Pink</b>
<b>402-1701-00L</b>	<b>Physics I</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>					
402-1701-00 V	Physik I <i>Findet im HPH G1 statt mit Videoübertragung Di 10-12 ins HCI G7 und Do 14-16 ins HCI J7</i>			4 hrs	Tue	10-12	HCI G7 HPH G1		<b>K. Ensslin</b>
					Thu	14-16	HCI J7 HPH G1		

402-1701-00 U	Physik I Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a>	2 hrs	Thu	12-14	HCI D4 HCI D6 HCI E2 HCI E8 HCI F2 HCI J8 HCP E47.3 HCP E47.4 HIL B21 HIL D10.2 HIL D60.1 HIL E10.1 HIL E5 HIL F10.3 HIT F31.2 HIT F32 HIT H42 HIT J51 HIT J53 HIT K51 HIT K52 HPK D24.2 HPK D3 HPL D34 HPT C103	K. Ensslin
---------------	---------------------------------------------------------------------------------------------------------------------------------	-------	-----	-------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------

529-0011-01L	General Chemistry (Physical Chemistry) I	O	3 credits	2V+1U					
529-0011-01 V	Allgemeine Chemie I (PC)		2 hrs	Wed	10-12	HG G5	H. J. Wörner		
529-0011-01 U	Allgemeine Chemie I (PC) <i>Groups are selected in myStudies.</i>		1 hrs	Thu	12-13	HCI F8 HCI J6 HIT F31.1 HIT J52	H. J. Wörner		
					13-14	HCI F8			
					18-19	HCI D8			
				Fri	10-11	HCI D6 HCI D8 HCI E2 HCI E8 HCI F2 HIL B21 HIL D10.2 HIT K51 HPK D24.2			
					12-13	HCI E2 HCI E8 HCI F2			
				20.09.	13-14	HCP E47.2			

### ►►► Additional First Year Compulsory Subjects

Number	Title	Type	ECTS	Hours					Lecturers
529-0011-04L	Practical Course General Chemistry <i>Latest online enrolment is 20.9.2021</i>	O	8 credits	12P					
	<i>Information about the practical course will be given on the first day.</i>								
529-0011-04 P	Allgemeine Chemie (Praktikum) ■ <i>Ferienpraktikum n. V. für Interdisziplinäre Naturwissenschaften kann alternativ nach dem 1. Semester oder während des 1. Semesters besucht werden. Für Phys.-Chem. Richtung prinzipiell auch während des 3. Semesters. Ferienpraktikum n. V. Woche 1-4 8-18 Uhr</i>			12 hrs	Mon Wed Fri 24.09. 27.09. 13.10.	13-18 13-18 13-18 13-16 13-16 13-15	HCI HCI HCI HCI G3 HPH G1 HIL C10.2	H. V. Schönberg, E. C. Meister	

### ►►► Electives

Number	Title	Type	ECTS	Hours					Lecturers
529-0011-02L	General Chemistry (Inorganic Chemistry) I	W+	3 credits	2V+1U					
529-0011-02 V	Allgemeine Chemie I (AC)		2 hrs	Tue	08-10	HCI G3	A. Togni		
529-0011-02 U	Allgemeine Chemie I (AC) <i>Groups are selected in myStudies. oder nach Vereinbarung</i>		1 hrs	Mon	08-09	HCI D2 HCI H2.1 HCI H8.1 HCI J8 HIT F31.2 HIT H42	A. Togni		
					10-11	HCI D4 HCI F2 HIL C10.2 HIT F31.2 HIT H42			
				Fri	11-12	HCI H8.1			
529-0011-03L	General Chemistry (Organic Chemistry) I	W+	3 credits	2V+1U					
529-0011-03 V	Allgemeine Chemie I (OC)		2 hrs	Fri	08-10	HCI G7	P. Chen		

529-0011-03 U	Allgemeine Chemie I (OC) <i>Groups are selected in myStudies. oder nach Vereinbarung</i>	1 hrs	Mon	09-10	HCI D2 HCI J6 HIT F31.2 HIT H42	P. Chen
				11-12	HIL B21 HIL C10.2 HIT F31.2 HIT H42	
			Tue	13-14	HIT J53	

### ►► 3. Semester (Physical-Chemical Direction)

#### ►►► Examination Block

Number	Title	Type	ECTS	Hours	Lecturers	
529-0422-00L	Physical Chemistry II: Chemical Reaction Kinetics	O	4 credits	3V+1U		
529-0422-00 V	Physikalische Chemie II: Chemische Reaktionskinetik			3 hrs	Tue 09-10 Fri 10-12	F. Merkt, U. Hollenstein
529-0422-00 U	Physikalische Chemie II: Chemische Reaktionskinetik <i>Groups are selected in myStudies.</i>			1 hrs	Mon 08-09	F. Merkt, U. Hollenstein
					Tue 10-11	
					11-12	
402-2883-00L	Physics III	O	7 credits	4V+2U		
402-2883-00 V	Physik III (Physics III)			4 hrs	Mon 09-11 Thu 12-14	U. Keller
402-2883-00 U	Physik III (Physics III) <i>Possible options to be discussed when lecture starts: Language English, German and even Italian or French is possible</i>			2 hrs	Thu 10-12	U. Keller
						HCI D4 HCI D6 HCI E2 HCP E47.2 HCI D4 HCI D6 HCI E8 HCI F8 HCI D4 HCI D6 HCI E8

#### ►►► Electives

*The Bachelor's programme in Interdisciplinary Sciences allows students to choose from any subject taught at a Bachelor level at ETH Zurich.*

*In consultation with the Director of Studies of Interdisciplinary Sciences, every student must establish his/her own individual study programme at the beginning of the 2nd year. See the Programme Regulations 2018 for further details.*

Number	Title	Type	ECTS	Hours	Lecturers	
252-0847-00L	Computer Science	W	5 credits	2V+2U		
252-0847-00 V	Informatik <i>Vorlesung im HG F7 mit Videoübertragung ins HG F5.</i>			2 hrs	Tue 14-16	R. Sasse, F. O. Friedrich Wicker
252-0847-00 U	Informatik <i>Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>			2 hrs	Tue 16-18	R. Sasse, F. O. Friedrich Wicker
					Wed 10-12	
					16-18	
401-2303-00L	Complex Analysis	W	6 credits	3V+2U		
401-2303-00 V	Funktionentheorie			3 hrs	Tue 10-12 Fri 11-12	T. H. Willwacher

401-2303-00 U	Funktionentheorie <i>Groups are selected in myStudies.</i>		2 hrs	Tue	14-16	ETZ E6 HG E33.1 HG G26.3 IFW A32.1 LEE C104 LEE D101 LEE D105 LFW C11 ML F38 ML J34.3 NO C44 NO C6	<b>T. H. Willwacher</b>
<b>401-2333-00L</b>	<b>Methods of Mathematical Physics I</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>			
401-2333-00 V	Methoden der mathematischen Physik I		3 hrs	Wed Fri	08-10 10-11	NO C60 NO C60	<b>G. Felder</b>
401-2333-00 U	Methoden der mathematischen Physik I <i>Groups are selected in myStudies.</i>		2 hrs	Tue	16-18	CAB G52 CHN G46 HG G26.3 IFW A32.1 LEE D101 LEE D105 LFW C11 ML F38 ML J34.1 ML J34.3 NO C44 NO C6	<b>G. Felder</b>
<b>402-0205-00L</b>	<b>Quantum Mechanics I</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>			
402-0205-00 V	Quantenmechanik I		3 hrs	Tue Thu	10-12 12-13	HPV G4 HPV G4	<b>M. Gaberdiel</b>
402-0205-00 U	Quantenmechanik I <i>Do 10-12 oder Do 16-18</i>		2 hrs	Thu	10-12  16-18	HCI H8.1 HIT F31.2 HIT K52 HPK D24.2 HIL B21 HIL E10.1 HIT K51 HPK D24.2	<b>M. Gaberdiel</b>
<b>402-0255-00L</b>	<b>Introduction to Solid State Physics</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>			
402-0255-00 V	Einführung in die Festkörperphysik		3 hrs	Thu Fri	14-16 13-14	HPH G3 HPH G3	<b>C. Degen</b>
402-0255-00 U	Einführung in die Festkörperphysik <i>Die Übungen beginnen in der 2. Semesterwoche.  Mi 14-16 oder Do 8-10.</i>		2 hrs	Wed  Thu	14-16  08-10	HCI E2 HIT F31.2 HIT F32 HIT H51 HIT F31.2 HIT F32 HIT J53	<b>C. Degen</b>
<b>402-0263-00L</b>	<b>Astrophysics I</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>			
402-0263-00 V	Astrophysics I		3 hrs	Tue Wed	14-16 13-14	HPV G4 HPV G5	<b>S. Lilly</b>
402-0263-00 U	Astrophysics I		2 hrs	Thu  Fri	08-10  14-16	HIT J51 HIT J52 HPL D34 HCP E47.1 HIT F32 HIT K52	<b>S. Lilly</b>
<b>402-0595-00L</b>	<b>Semiconductor Nanostructures</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0595-00 V	Semiconductor Nanostructures		2 hrs	Wed	12-14	HCI J4	<b>T. M. Ihn</b>
402-0595-00 U	Semiconductor Nanostructures <i>or by appointment</i>		1 hrs	Wed	14-15	HIT J51 HIT K52	<b>T. M. Ihn</b>
<b>402-2203-01L</b>	<b>Classical Mechanics</b>	<b>W</b>	<b>7 credits</b>	<b>4V+2U</b>			
402-2203-01 V	Allgemeine Mechanik <i>Die erste Vorlesung (23.09.21) findet im HCI G 7 statt, danach im HPH G 3 bzw. HIL E 3.</i>		4 hrs	Mon Thu	12-14 14-16 23.09.	HPH G3 HIL E3 HCI G7	<b>R. Renner</b>
402-2203-01 U	Allgemeine Mechanik <i>Die Übungen beginnen in der 2. Semesterwoche.</i>		2 hrs	Tue  Wed  Fri	08-10  10-12  14-16	CHN D42 CHN D48 CHN E46 HG E33.1 LFW C1 ML F40 ML J34.1 ML J34.3 ML J37.1 HIL C10.2 HPL D32 HPL D34	<b>R. Renner</b>
<b>529-0051-00L</b>	<b>Analytical Chemistry I</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>			
529-0051-00 G	Analytische Chemie I		3 hrs	Wed Thu	08-10 08-09	HCI G3 HPH G2	<b>D. Günther, M.-O. Ebert, G. Schwarz, R. Zenobi</b>
<b>529-0121-00L</b>	<b>Inorganic Chemistry I</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>			

529-0121-00 V	Anorganische Chemie I			2 hrs	Mon	08-10	HCI G3	<b>H. Grützmacher,</b> P. Steinegger
529-0121-00 U	Anorganische Chemie I			1 hrs	Tue	12-13	HCI D2 HCI D8 HCI E8 HCI F2 HCI F8 HCI J8	<b>H. Grützmacher,</b> P. Steinegger
<b>529-0221-00L</b>	<b>Organic Chemistry I</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>				
529-0221-00 V	Organische Chemie I			2 hrs	Wed	12-14	HCI G3	<b>H. Wennemers</b>
529-0221-00 U	Organische Chemie I <i>Groups are selected in myStudies.</i>			1 hrs	Mon	12-13	HCI D6 HCI E8 HCI F8 HCI H2.1 HCI J8 HCI D8 HCI H2.1 HCI J3 HCI J8	<b>H. Wennemers</b>
<b>701-0023-00L</b>	<b>Atmosphere</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
701-0023-00 V	Atmosphäre			2 hrs	Tue	10-12	HG E3	<b>E. M. Fischer,</b> T. Peter
<b>701-0461-00L</b>	<b>Numerical Methods in Environmental Sciences</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0461-00 G	Numerische Methoden in der Umweltphysik			2 hrs	Thu	08-10	CHN E46	<b>C. Schär</b>
<b>701-0473-00L</b>	<b>Weather Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0473-00 G	Wettersysteme			2 hrs	Wed	14-16	CHN E46	<b>M. A. Sprenger,</b> F. Scholder-Aemisegger
<b>701-0475-00L</b>	<b>Atmospheric Physics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0475-00 G	Atmosphärenphysik <i>Im Anschluss an die LV findet ein freiwilliges, einstündiges Tutorial im gleichen Raum (CHN F46) statt.</i>			2 hrs	Wed	10-12	CHN F46	<b>U. Lohmann</b>
<b>701-0501-00L</b>	<b>Pedosphere</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
701-0501-00 V	Pedosphäre			2 hrs	Thu	10-12	HG G3	<b>R. Kretzschmar</b>
<b>752-4001-00L</b>	<b>Microbiology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
752-4001-00 V	Mikrobiologie			2 hrs	Mon	08-10	ML D28	<b>M. Ackermann,</b> M. Schuppler, J. Vorholt-Zambelli

### ►►► Laboratory Courses, Semester Papers, Proseminars, Field Trips

*Further laboratory courses must be applied for at the respective Director of Studies.*

Number	Title	Type	ECTS	Hours				Lecturers
529-0011-04L	Practical Course General Chemistry <i>Latest online enrolment is 20.9.2021</i>	O	8 credits	12P				
	<i>Information about the practical course will be given on the first day.</i>							
529-0011-04 P	Allgemeine Chemie (Praktikum) ■ <i>Ferienpraktikum n. V. für Interdisziplinäre Naturwissenschaften kann alternativ nach dem 1. Semester oder während des 1. Semesters besucht werden. Für Phys.-Chem. Richtung prinzipiell auch während des 3. Semesters. Ferienpraktikum n. V. Woche 1-4 8-18 Uhr</i>			12 hrs	Mon Wed Fri 24.09. 27.09. 13.10.	13-18 13-18 13-18 13-16 13-16 13-15	HCI HCI HCI HCI G3 HPH G1 HIL C10.2	H. V. Schönberg, E. C. Meister
529-0129-00L	Inorganic and Organic Chemistry II <i>Latest online enrolment is one week before the beginning of the semester.</i>	W	11 credits	16P				

529-0129-00 P	Inorganic and Organic Chemistry II	16 hrs	Mon	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	V. Mougél
			Tue	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	
			Thu	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	
			Fri	14-18	HCI H174 HCI H190.2 HCI H192.2 HCI H194.2 HCI H196.2 HCI H296.2	
			23.09.	17-18	HCI J6	
			24.09.	14-18	HCI G7	

## ►► 5. Semester (Physical-Chemical Direction)

### ►►► Laboratory Courses, Semester Papers, Proseminars, Field Trips

*Further laboratory courses must be applied for at the respective Director of Studies.*

Number	Title	Type	ECTS	Hours				Lecturers
529-0450-00L	Semester Project	W	18 credits	18A				Supervisors
529-0450-00 A	Semesterarbeit			18 hrs	by appt.			
402-0000-09L	Physics Lab 3	W	7 credits	13P				M. Donegà, S. Gvasaliya
402-0000-09 P	Physikpraktikum 3 Montag obligatorisch. Das Praktikum ist auch Di, Mi und Fr geöffnet.			180s hrs	Mon	09-16	HPP	

### ►►► Bachelor's Thesis

Number	Title	Type	ECTS	Hours	Lecturers		
529-0400-00L	Bachelor's Thesis	O	15 credits	15D			
529-0400-00 D	Bachelor-Arbeit			15 hrs	by appt.	Supervisors	

## ► Biochemical-Physical Direction

### ►► 1. Semester (Biochemical-Physical Direction)

#### ►►► Compulsory Subjects First Year Examinations

Number	Title	Type	ECTS	Hours	Lecturers		
402-0043-00L	Physics I	O	4 credits	3V+1U			
402-0043-00 V	Physics I (Physik I)			3 hrs	Tue	16-17	HPH G2 J. Home
					Thu	16-18	HPH G2
402-0043-00 U	Physik I <i>Di 17-18 für Studiengang Rechnergestützte Wissenschaften. Mi 9-10 (oder Di 17-18 als Ausweichtermin) für Studiengänge Chemie bzw. Chemieingenieurwissenschaften sowie Interdisziplinäre Naturwissenschaften. Mi 12-13 für Studiengang Raumbezogene Ingenieurwissenschaften. Do 10-11 für Studiengang Biochemie.</i>			1 hrs	Tue	17-18	HCI D2 HIT F31.1 HIT H51 HIT J51 CAB G52 HG E21 HG E22 HG E33.5 HG G26.3 ML H41.1 ML J34.1 ML J34.3 HG D3.2 HCI D6 J. Home
					Wed	09-10	
					Thu	12-13 10-11	
551-0125-00L	Fundamentals of Biology I: From Molecules to the Biochemistry of Cells	O	6 credits	5G			
551-0125-00 G	Grundlagen der Biologie I: von Molekülen zur Biochemie der Zellen <i>Vorlesung: Montag 12-14 Uhr, Donnerstag 10-12 Uhr Übungen: Freitag 12-13 Uhr oder 13-14 Uhr</i>			5 hrs	Mon	12-14	HCI G7 J. Vorholt-Zambelli, N. Ban, R. Glockshuber, K. Locher, J. Piel
					Thu	10-12	HCI G7
					Fri	12-13 13-14	HCI G7 HCI G7
401-0271-00L	Mathematical Foundations I: Analysis A	O	5 credits	3V+2U			
401-0271-00 V	Grundlagen der Mathematik I (Analysis A)			3 hrs	Tue	10-12	HIL E1 L. Keller
					Wed	08-09	HG E5

401-0271-00 U	Grundlagen der Mathematik I (Analysis A) <i>Groups are selected in myStudies.</i>		2 hrs	Mon	08-10	HIL E7 HIT J51 HIT K51 HIT K52 10-12 HCI F8 HIT J51 HIT K51 HIT K52	<b>L. Keller</b>
<b>529-0011-02L</b>	<b>General Chemistry (Inorganic Chemistry) I</b>	<b>O</b>	<b>3 credits</b>				
529-0011-02 V	Allgemeine Chemie I (AC)		2 hrs	Tue	08-10	HCI G3	<b>A. Togni</b>
529-0011-02 U	Allgemeine Chemie I (AC) <i>Groups are selected in myStudies. oder nach Vereinbarung</i>		1 hrs	Mon	08-09	HCI D2 HCI H2.1 HCI H8.1 HCI J8 HIT F31.2 HIT H42 10-11 HCI D4 HCI F2 HIL C10.2 HIT F31.2 HIT H42 11-12 HCI H8.1	<b>A. Togni</b>
<b>529-0011-03L</b>	<b>General Chemistry (Organic Chemistry) I</b>	<b>O</b>	<b>3 credits</b>				
529-0011-03 V	Allgemeine Chemie I (OC)		2 hrs	Fri	08-10	HCI G7	<b>P. Chen</b>
529-0011-03 U	Allgemeine Chemie I (OC) <i>Groups are selected in myStudies. oder nach Vereinbarung</i>		1 hrs	Mon	09-10	HCI D2 HCI J6 HIT F31.2 HIT H42 11-12 HIL B21 HIL C10.2 HIT F31.2 HIT H42 HIT J53	<b>P. Chen</b>
<b>529-0011-01L</b>	<b>General Chemistry (Physical Chemistry) I</b>	<b>O</b>	<b>3 credits</b>				
529-0011-01 V	Allgemeine Chemie I (PC)		2 hrs	Wed	10-12	HG G5	<b>H. J. Wörner</b>
529-0011-01 U	Allgemeine Chemie I (PC) <i>Groups are selected in myStudies.</i>		1 hrs	Thu	12-13	HCI F8 HCI J6 HIT F31.1 HIT J52 13-14 HCI F8 18-19 HCI D8 10-11 HCI D6 HCI D8 HCI E2 HCI E8 HCI F2 HIL B21 HIL D10.2 HIT K51 HPK D24.2 12-13 HCI E2 HCI E8 HCI F2 20.09. 13-14 HCP E47.2	<b>H. J. Wörner</b>

### ►►► Additional First Year Compulsory Subjects

Number	Title	Type	ECTS	Hours				Lecturers
529-0011-04L	Practical Course General Chemistry <i>Latest online enrolment is 20.9.2021</i>	O	8 credits	12P				
	<i>Information about the practical course will be given on the first day.</i>							
529-0011-04 P	Allgemeine Chemie (Praktikum) ■ <i>Ferienpraktikum n. V. für Interdisziplinäre Naturwissenschaften kann alternativ nach dem 1. Semester oder während des 1. Semesters besucht werden. Für Phys.-Chem. Richtung prinzipiell auch während des 3. Semesters. Ferienpraktikum n. V. Woche 1-4 8-18 Uhr</i>			12 hrs	Mon Wed Fri 24.09. 27.09. 13.10.	13-18 13-18 13-18 13-16 13-16 13-15	HCl HCl HCl HCl G3 HPH G1 HIL C10.2	<b>H. V. Schönberg,</b> E. C. Meister

### ►► 3. Semester (Biochemical-Physical Direction)

#### ►►► Examination Block

Number	Title	Type	ECTS	Hours	Lecturers		
<b>401-0373-00L</b>	<b>Mathematics III: Partial Differential Equations</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>			
401-0373-00 V	Mathematics III: Partial Differential Equations			2 hrs	Thu	10-12	<b>A. Carlotto</b>
401-0373-00 U	Mathematics III: Partial Differential Equations <i>Groups are selected in myStudies.</i>			1 hrs	Thu	09-10	<b>A. Carlotto</b>
						12-13	HCI J7 HCI J7 HCP E47.1 HIT H51 HCP E47.2

<b>529-0001-00L</b>	<b>Introduction to Computer Science</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
529-0001-00 V	Informatik I			2 hrs	Thu	08-10	HIL E3	<b>P. H. Hünenberger</b>	
529-0001-00 U	Informatik I			2 hrs	Tue	12-14	HCI D267.4 HIT F21	<b>P. H. Hünenberger</b>	
						14-16	HCI D267.4 HIT F21		
					Thu	10-12	HCI D267.4 HIT F21		
						14-16	HCI D267.4 HIT F21		
					Fri	10-12	HCI D267.4 HIT F21		
<b>252-0027-00L</b>	<b>Introduction to Programming</b>	<b>W</b>	<b>7 credits</b>	<b>4V+2U</b>					
252-0027-00 V	Einführung in die Programmierung <i>Vorlesung im ML D28 mit Videoübertragung ins ML E12.</i>			4 hrs	Tue	10-12	ML D28 ML E12	<b>T. Gross</b>	
					Fri	08-10	ML D28 ML E12		
252-0027-00 U	Einführung in die Programmierung <i>Groups are selected in myStudies. Donnerstag 8-10 Übungsgruppe nur für Studierende Interdisziplinäre Naturwissenschaften.  Die genauen Unterrichtszeiten von ONLINE - Veranstaltungen werden von den Dozierenden kommuniziert.</i>			2 hrs	Wed	08-10	CAB G56 CAB G59 CHN D42 CHN D44 CHN D46 CHN G46 CLA E4 ETZ F91 ETZ G91 ETZ H91 ETZ J91 ETZ K91 HG D3.1 HG D3.3 HG D5.1 HG D5.3 HG F26.5 HG G26.5 LFW B3 LFW C11 ML J37.1 ON LINE ON LINE ON LINE ON LINE HPL D32	<b>T. Gross</b>	
					Thu	08-10			
<b>529-0422-00L</b>	<b>Physical Chemistry II: Chemical Reaction Kinetics</b>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>					
529-0422-00 V	Physikalische Chemie II: Chemische Reaktionskinetik			3 hrs	Tue	09-10	HCI J3	<b>F. Merkt, U. Hollenstein</b>	
					Fri	10-12	HCI G3		
529-0422-00 U	Physikalische Chemie II: Chemische Reaktionskinetik <i>Groups are selected in myStudies.</i>			1 hrs	Mon	08-09	HCI D4 HCI D6 HCI E2 HCP E47.2	<b>F. Merkt, U. Hollenstein</b>	
					Tue	10-11	HCI D4 HCI D6 HCI E8 HCI F8		
						11-12	HCI D4 HCI D6 HCI E8		
<b>529-0221-00L</b>	<b>Organic Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
529-0221-00 V	Organische Chemie I			2 hrs	Wed	12-14	HCI G3	<b>H. Wennemers</b>	
529-0221-00 U	Organische Chemie I <i>Groups are selected in myStudies.</i>			1 hrs	Mon	12-13	HCI D6 HCI E8 HCI F8 HCI H2.1 HCI J8 HCI D8 HCI H2.1 HCI J3 HCI J8	<b>H. Wennemers</b>	
					Tue	08-09			

## ►► 5. Semester (Biochemical-Physical Direction)

### ►►► Laboratory Courses, Semester Papers, Proseminars, Field Trips

*Further laboratory courses must be applied for at the respective Director of Studies.*

Number	Title	Type	ECTS	Hours	Lecturers
<b>529-0450-00L</b>	<b>Semester Project</b>	<b>W</b>	<b>18 credits</b>	<b>18A</b>	
529-0450-00 A	Semesterarbeit			18 hrs by appt.	Supervisors

### ►►► Bachelor's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>529-0400-00L</b>	<b>Bachelor's Thesis</b>	<b>O</b>	<b>15 credits</b>	<b>15D</b>	
529-0400-00 D	Bachelor-Arbeit			15 hrs by appt.	Supervisors



## ► Second and Third Year Additional Subjects

*The Bachelor's programme in Interdisciplinary Sciences allows students to choose from any subject taught at a Bachelor level at ETH Zurich.*

*In consultation with the Director of Studies of Interdisciplinary Sciences, every student must establish his/her own individual study programme at the beginning of the 2nd year. See the Programme Regulations 2010/2018 for further details.*

## ►► Other Electives ETH

*Further combinations of compulsory elective subjects arising upon specific written request by the students and permission by the Director of studies.*

*Selection of courses from entire course catalogue of ETH, according to individual study plan*

## ► GESS Science in Perspective

### ►► Science in Perspective

*see GESS Science in Perspective: Type A: Enhancement of Reflection Capability*

*Recommended GESS Science in Perspective (Type B) for D-CHAB.*

### ►► Language Courses

*see GESS Science in Perspective: Language Courses ETH/UZH*

## Interdisciplinary Sciences Bachelor - Key for Type

Z	Courses outside the curriculum	W+	Eligible for credits and recommended
Dr	Suitable for doctorate	W	Eligible for credits
O	Compulsory	E-	Recommended, not eligible for credits

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Interdisciplinary Sciences Master

The Master's programme in Interdisciplinary Sciences allows students to choose from any subject taught at the Master's level at ETH Zurich.

In consultation with the Director of Studies of Interdisciplinary Sciences, every student must establish his/her own individual study programme at the beginning of the Master's programme. See the Programme Regulations 2007/2020 for further details.

## ► Majors

The following list provides various Majors that can be chosen from: [https://ethz.ch/content/dam/ethz/special-interest/chab/chab-dept/studies/documents/IN/WL\\_IN\\_SR19192101\\_EN.pdf](https://ethz.ch/content/dam/ethz/special-interest/chab/chab-dept/studies/documents/IN/WL_IN_SR19192101_EN.pdf)

In addition it is possible to create an individual Major in accordance with the Programme Regulations (Art. 19 paragraph 3).

Selection of courses from entire course catalogue of ETH, according to individual study plan

## ► General Courses

Selection of courses from entire course catalogue of ETH, according to individual study plan

## ► Proseminars, Laboratory Courses, Research Projects and Sem. Papers

Number	Title	Type	ECTS	Hours	Lecturers
529-0020-00L	<b>Research Project</b>	<b>W</b>	<b>20 credits</b>	<b>20A</b>	
529-0020-00 A	Research Project			20 hrs by appt.	Supervisors

Selection of courses from entire course catalogue of ETH, according to individual study plan

## ► GESS Science in Perspective

see GESS Science in Perspective: Language Courses ETH/UZH

see GESS Science in Perspective: Type A: Enhancement of Reflection Capability

Recommended GESS Science in Perspective (Type B) for D-CHAB.

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
529-1000-00L	<b>Master's Thesis</b> Only students who fulfill the following criteria are allowed to begin with their Master's thesis: a. successful completion of the Bachelor's programme; b. fulfilling of any additional requirements necessary to gain admission to the Master's programme.	<b>O</b>	<b>20 credits</b>	<b>43D</b>	
529-1000-00 D	Master's Thesis			600s hrs by appt.	Supervisors

Duration of the Master's Thesis: 4 months.

529-1000-30L	<b>Master's Thesis</b> Only students who fulfill the following criteria are allowed to begin with their Master's thesis: a. successful completion of the Bachelor's programme; b. fulfilling of any additional requirements necessary to gain admission to the Master's programme.	<b>W</b>	<b>30 credits</b>	<b>64D</b>	
529-1000-30 D	Master's Thesis			900s hrs by appt.	Supervisors

Duration of the Master's Thesis 6 months, possible only with permission of the Director of Studies.

## Interdisciplinary Sciences Master - Key for Type

W+	Eligible for credits and recommended	E-	Recommended, not eligible for credits
O	Compulsory	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Landscape Architecture Master

## ► Basic Courses

All basic courses (in terms of content and methodology linked to "Foundation Studio I") must be completed.

### ►► Compulsory Basic Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>061-0101-00L</b>	<b>Climate / Water / Soil</b> Only for Landscape Architecture MSc.	<b>O</b>	<b>2 credits</b>	<b>3G</b>					
061-0101-01 G	Climate ■ Module of 20.-24.9.2021. NOTE: All the MScLA courses take place in room HIL G64! Course languages are English and German.			20s hrs	20.09.	13-18	HIQ C11		<b>H. Joos</b> , N. Bluvshstein, R. Knutti, G. Mussetti, T. Peter, S. Schemm, J. Schwaab, C. Steger, H. Wernli
					21.09.- 24.09.	08-12	HIQ C11		
061-0101-02 G	Water ■ Module of 27.09.-1.10.2021. NOTE: All the MScLA courses take place in room HIL G64! Course languages are English and German.			20s hrs	27.09.	14-18	HIQ C11		<b>R. Weingartner</b>
					28.09.- 01.10.	08-12	HIQ C11		
061-0101-03 G	Soil ■ Module of 4.10.-8.10.2021. NOTE: All the MScLA courses take place in room HIL G64! Course languages are English and German.			20s hrs	04.10.	14-18	HIQ C11		<b>R. Kretzschmar</b> , A. Carminati, S. Dötterl, A. Frossard, T. Galí- Izard
					05.10.- 08.10.	08-12	HIQ C11		
<b>061-0103-00L</b>	<b>Ecology and Plant Sciences</b> Only for Landscape Architecture MSc.	<b>O</b>	<b>2 credits</b>	<b>3G</b>					
061-0103-00 G	Ecology and Plant Sciences ■ Modul vom 11.10.-22.10.21. NOTE: All the MScLA courses take place in room HIL G64! Course languages are English and German.			40s hrs	11.10.	14-18	HIQ C11		<b>T. Galí-Izard</b> , N. Guettler, A. Guggisberg, J. Hille Ris Lambers, M. Lévesque, A. Rudow
					11.10.- 22.10.	08-12	HIQ C11		
					18.10.	14-18	HIQ C11		
<b>061-0105-00L</b>	<b>Designing with Plants I</b> Only for Landscape Architecture MSc.	<b>O</b>	<b>2 credits</b>	<b>2G</b>					
061-0105-00 G	Entwerfen mit Pflanzen I ■ Modul vom 1.11.-12.11.2021. BITTE BEACHTEN: Alle Lehrveranstaltungen MScLA finden in Raum HIL G64 statt! Der detaillierte Wochenplan wird auf der Website des Studiengangs publiziert (resp. ist im Reader enthalten)			28s hrs	01.11.- 12.11.	09-12	HIQ C11		<b>S. Hassold</b>
					05.11.	09-19	HIQ C11		
<b>061-0107-00L</b>	<b>Materials and Construction I</b> Only for Landscape Architecture MSc.	<b>O</b>	<b>2 credits</b>	<b>2G</b>					
061-0107-00 G	Materialien und Konstruktion I ■ Modul vom 15.-26.11.2021. BITTE BEACHTEN: Alle Lehrveranstaltungen MScLA finden in Raum HIL G64 statt! Der detaillierte Wochenplan wird auf der Website des Studiengangs publiziert (resp. ist im Reader enthalten).			24s hrs	16.11.	08-12	HIQ C11		<b>R. Voss</b> , G. Vogt
					17.11.	08-12	HIQ C11		
					18.11.	08-12	HIQ C11		
					23.11.	08-12	HIQ C11		
					24.11.	08-12	HIQ C11		
					26.11.	13-17	HIQ C11		
<b>061-0109-00L</b>	<b>History and Theory in Landscape Architecture I</b> Only for Landscape Architecture MSc.	<b>O</b>	<b>2 credits</b>	<b>2V</b>					
061-0109-00 V	Geschichte und Theorie der Landschaftsarchitektur I ■ Keine Lehrveranstaltung am 25.10.2021 (Seminarwoche) und am 20.12.21 (Schlussabgabe). Kursdaten: s. Raumbelegungen! BITTE BEACHTEN: Alle Lehrveranstaltungen MScLA finden in Raum HIL G64 statt! (Findet im Wechsel mit "Ethik in der Landschaftsarchitektur" als Blockveranstaltung statt).			24s hrs	Mon	08-12	HIQ C11		<b>A. Bucher</b>
<b>061-0111-00L</b>	<b>Ethics in Landscape Architecture</b> Only for Landscape Architecture MSc.	<b>O</b>	<b>2 credits</b>	<b>2G</b>					
061-0111-00 G	Ethik in der Landschaftsarchitektur ■ Keine Lehrveranstaltung am 25.10.2021 (Seminarwoche) und 20.12. (Schlussabgabe). Kursdaten: s. Raumbelegungen! BITTE BEACHTEN: Alle Lehrveranstaltungen MScLA finden in Raum HIL G64 statt! (Findet im Wechsel mit "Geschichte & Theorie in der Landschaftsarchitektur" als Blockveranstaltung statt)			24s hrs	Mon	08-12	HIQ C11		<b>A. Kirchengast</b>
<b>061-0113-00L</b>	<b>Digital Design Methods I</b> Only for Landscape Architecture MSc.	<b>O</b>	<b>2 credits</b>	<b>2G</b>					
061-0113-00 G	Digital Design Methods I ■ No course on 25.10.2021 (seminar week) and 20.12.2021.			22s hrs	Mon	12-14	HIL H40.8		<b>B. Kowalewski</b> , D. Häusler, Z. Ma

## ► Core Courses

The core courses build on the basic courses and convey basic, broad knowledge in the core areas of landscape architecture in relation to design lessons. Some of the core courses are compulsory and some are freely selectable. Further details, in particular about taking these subjects, for performance assessments and for compensating for failed subjects, are regulated in Art. 27 and Art. 31 Paragraph 4.

### ►► Compulsory Core Courses

Courses are offered in Spring Semester.

### ►► Elective Core Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>052-0569-21L</b>	<b>Lecture Series Design and Architecture: Architecture of ...</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>					

052-0569-21 V	Ringvorlesung Entwurf und Architektur: Architektur von ... <i>Die Ringvorlesungen finden an Dienstagen von 18-20 Uhr in HIL E4 statt (s. Raumreservationen!):</i>	1 hrs	Tue	18-20	HIL E4	<b>E. Christ</b> , A. Caruso, C. Kerez, E. Mosayebi
	28.09.21: Prof. Patrick Heiz 05.10.21: PD Dr. Erik Wegerhoff (HIL Tiefgarage, bitte Wegweisern folgen!) Keine Live-Übertragung. Aufzeichnung auf IEA Webseite. 12.10.21: Prof. Mike Guyer 02.11.21: Prof. Freek Persyn 16.11.21: GD Roger Boltshauser 30.11.21: GD Angela Deuber 07.12.21: Prof. Alexandre Theriot					

## ►► Compensatory Course for Core Courses

*In the first semester of the curriculum no compensation courses for compulsory courses offered.*

## ► Advanced Courses

*In the first semester of the curriculum there are no main courses offered.*

## ► Design Studios

*The design studios deal with problem and practice-related tasks on a local, regional, supra-regional, national and international level. Teaching of digital analysis, design and planning methods.*

## ►► Foundation Studio I and II

- Fundamental Studio I: basic knowledge;
- Fundamental Studio II: Design tasks in the context of the contemporary landscape;

Number	Title	Type	ECTS	Hours	Lecturers		
061-0141-21L	<b>Foundation Studio I</b> <i>Only for Landscape Architecture MSc. Classes and critiques are held in English and German.</i>	O	14 credits	26U			
061-0141-21 U	Foundation Studio I ■ <i>The weekly schedule is published on the course website (and is included in the reader). NOTE: All the MScLA courses take place in room HIL G64! Classes (and critiques) are held in English and German</i>			26 hrs	21.09.- 26.11.	13-18	HIQ C11
					15.11.	14-18	HIQ C11
					19.11.	08-12	HIQ C11
					22.11.	14-18	HIQ C11
					25.11.	08-12	HIQ C11
					26.11.	08-12	HIQ C11
					29.11.	14-18	HIQ C11
					30.11.- 23.12.	08-12	HIQ C11
						13-18	HIQ C11
					06.12.	14-18	HIQ C11
					13.12.	14-18	HIQ C11

## ►► Advanced Studio

*Complex design tasks involving social, topographical, hydrological and ecological issues.*

*The advanced studio will be offered as of Spring Semester 2022.*

## ► Seminar Week and Internship Report

*In MScLA at least one week of seminar must be completed.*

*Furthermore, part of the course is a six-month internship in the field of landscape architecture, the achievements (work phases, learning success) must be documented in an internship report.*

Number	Title	Type	ECTS	Hours	Lecturers		
061-0151-21L	<b>Seminar Week Autumn Semester 2021</b> <i>Only for Landscape Architecture MSc.</i>	W	2 credits	3S			
061-0151-21 S	Seminarwoche Herbstsemester 2021 ■			40s hrs	<b>S. Hassold</b> , G. Vogt		
061-0153-00L	<b>Internship Report</b> <i>Only for Landscape Architecture MSc.</i>	O	2 credits	4P			
061-0153-00 P	Praktikumsbericht ■ <i>Lehrsprachen sind Deutsch und Englisch.</i>			60s hrs	<b>T. Galí-lzard</b> , G. Vogt		

## ► Science in Perspective

*Courses of the "Science in Perspective" programme have to be completed (details see study guidelines Art. 27).*

*see GESS Science in Perspective:  
Language Courses ETH/UZH*

*see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended GESS Science in  
Perspective (Type B) for D-ARCH.*

## ► Master's Thesis

*The master's thesis is the successful completion of the course. It confirms the ability to work independently in the field of landscape architecture and is*

tutored by D-ARCH professors (for details see Art. 30 of the study regulations).

Number	Title	Type	ECTS	Hours	Lecturers
061-0900-00L	<b>Master's Thesis</b> <i>The Master's Thesis is offered in HS22 for the first time.</i>  <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>	O	30 credits	64D	
061-0900-00 D	Master-Arbeit ■ <i>Does not take place this semester.</i> <i>Sprachen: Deutsch oder Englisch.</i>			900s hrs	Professors

#### Landscape Architecture Master - Key for Type

W+	Eligible for credits and recommended	E-	Recommended, not eligible for credits
O	Compulsory	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Food Science TC

Detailed information on the programme at: [www.didaktischeausbildung.ethz.ch](http://www.didaktischeausbildung.ethz.ch)

## ► Educational Science

Number	Title	Type	ECTS	Hours					Lecturers
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V					
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1		E. Stern
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S					
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1		R. Schumacher
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S					
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40		E. Stern
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S					
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1		P. Edelsbrunner, T. Braas, C. M. Thurn
851-0240-22L	<b>Coping with Psychosocial Demands of Teaching (EW4 DZ)</b> <i>Number of participants limited to 20.</i>  <i>The successful participation in EW1 ("Human Learning") and EW2 ("Designing Learning Environments for School") is recommended, but not a mandatory prerequisite.</i>	W	2 credits	3S					
851-0240-22 S	Bewältigung psychosozialer Anforderungen im Lehrberuf (EW4 DZ) ■			3 hrs	Tue	09-12	HG E33.1 HG F26.5 HG G26.1		U. Markwalder, S. Maurer, S. Peteranderl
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S					
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114		M. Berkowitz Biran, T. Braas, C. M. Thurn

## ► Subject Didactics and Professional Training

*Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.*

Number	Title	Type	ECTS	Hours	Lecturers
752-9020-00L	<b>Teaching Internship Including Examination Lessons Food Science</b> <i>The teaching internship can just be visited if all other courses of TC are completed. Repetition of the teaching internship is excluded even if the examination lessons are to be repeated.</i>	W	6 credits	13P	
752-9020-00 P	Unterrichtspraktikum mit Prüfungslektionen Lebensmittelwissenschaften DZ ■			180s hrs by appt.	G. Kaufmann

## ► Further Subject Didactics

*For students enrolled from HS 2019: The courses offered here are credited under the category «Subject Didactics and Professional Training».*

Number	Title	Type	ECTS	Hours	Lecturers
752-9005-00L	<b>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus Food Sc.</b>	O	2 credits	4A	
752-9005-00 A	Mentorierte Arbeit fachwissenschaft. Vertiefung mit pädag. Fokus Lebensmittelwissenschaften ■			60s hrs by appt.	G. Kaufmann, K. Koch, U. Lerch

### Food Science TC - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.



## Food Science Master

### ► Major in Food Processing

#### ►► Disciplinary Subjects

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-3103-00L</b>	<b>Food Rheology I</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-3103-00 V	Food Rheology I			2 hrs	Tue	08-10	LFO C13	<b>P. A. Fischer</b>
<b>752-2003-00L</b>	<b>Selected Topics in Food Technology</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-2003-00 V	Selected Topics in Food Technology <i>Irregular course. Exact dates and time are listed at 'Lehrveranstaltungen/ courses. The dates are adjusted with "Physiology Guided Food Structure and Process Design" (752-3105-00L).</i>			2 hrs	Thu	10-12 14-16	HG E33.3 LFV E41	<b>R. Stadler, R. Behringer</b>
	<i>An excursion is planned.</i>							
<b>752-2314-00L</b>	<b>Physics of Food Colloids</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-2314-00 V	Physics of Food Colloids			2 hrs	Tue	10-12	ML F36	<b>P. A. Fischer, R. Mezzenga</b>
<b>752-3021-00L</b>	<b>Food Process Design and Optimization</b>	<b>W+</b>	<b>4 credits</b>	<b>2G</b>				
752-3021-00 G	Food Process Design and Optimization			2 hrs	Wed	08-10	LFW E13	<b>E. J. Windhab</b>
<b>752-3023-00L</b>	<b>Process Measurements and Automation</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
752-3023-00 G	Process Measurements and Automation			2 hrs	Thu	08-10	CLA E4	<b>E. J. Windhab</b>
<b>752-3201-00L</b>	<b>Emerging Thermal and Non Thermal Food Processing</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-3201-00 V	Emerging Thermal and Non Thermal Food Processing			2 hrs	Wed	10-12	LFW C4	<b>A. Mathys</b>

#### ►► Methodology Subjects

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W+</b>	<b>5 credits</b>	<b>2V+1U</b>				
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon	14-16	HG G5	<b>L. Meier</b>
401-0625-01 U	Applied Analysis of Variance and Experimental Design			1 hrs	Mon/2w	16-18	HG E1.1	<b>L. Meier</b>
<b>401-0649-00L</b>	<b>Applied Statistical Regression</b>	<b>W+</b>	<b>5 credits</b>	<b>2V+1U</b>				
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon	08-10	HG E1.2	<b>M. Dettling</b>
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>			1 hrs	Mon/2w	10-12	HG E1.2	<b>M. Dettling</b>

#### ►► Optional Subjects

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-3105-00L</b>	<b>Physiology Guided Food Structure and Process Design</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-3105-00 V	Physiology Guided Food Structure and Process Design <i>Irregular course. Exact dates and time are listed at 'Lehrveranstaltungen/ courses. The dates are adjusted with the course "Selected Topics in Food Technology" (752-2003-00L).</i>			2 hrs	Thu	10-12 14-16	HG E33.3 LFV E41	<b>E. J. Windhab, M. Deveziaux de Lavergne, S. Michlig Gonzalez, T. Wooster</b>

### ► Major in Food Quality and Safety

#### ►► Disciplinary Subjects

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-0801-00L</b>	<b>Food Law and Legislation</b>	<b>W+</b>	<b>1 credit</b>	<b>1V</b>				
752-0801-00 V	Lebensmittelrecht			1 hrs	Fri/2w	10-12	LFW C4	<b>C. Spinner, E. Zbinden Kaessner</b>
<b>752-1021-00L</b>	<b>Food Enzymology</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
752-1021-00 G	Food Enzymology			2 hrs	Tue	14-16	LFV E41	<b>L. Nyström, M. Erzinger</b>
<b>752-4009-00L</b>	<b>Molecular Biology of Foodborne Pathogens</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-4009-00 V	Molecular Biology of Foodborne Pathogens			2 hrs	Thu	10-12	HG E1.2	<b>M. Loessner, M. Schmelcher, M. Schuppler, E. Wetter Slack</b>
<b>752-5103-00L</b>	<b>Functional Microorganisms in Foods</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
752-5103-00 G	Functional Microorganisms in Foods ■ <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG D7.1	<b>C. Lacroix, A. Geirnaert, A. Greppi</b>
<b>752-1301-00L</b>	<b>Special Topics in Toxicology</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
752-1301-00 G	Special Topics in Toxicology			2 hrs	Fri	08-10	CHN E42	<b>K. Hecht</b>

#### ►► Methodology Subjects

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W+</b>	<b>5 credits</b>	<b>2V+1U</b>				
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon	14-16	HG G5	<b>L. Meier</b>

401-0625-01 U	Applied Analysis of Variance and Experimental Design	1 hrs	Mon/2w	16-18	HG E1.1	<b>L. Meier</b>
<b>401-0649-00L</b>	<b>Applied Statistical Regression</b>	<b>W+</b>	<b>5 credits</b>	<b>2V+1U</b>		
401-0649-00 V	Applied Statistical Regression	2 hrs	Mon	08-10	HG E1.2	<b>M. Dettling</b>
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>	1 hrs	Mon/2w	10-12	HG E1.2	<b>M. Dettling</b>
<b>752-5500-00L</b>	<b>Applied Bioinformatics: Microbiomes</b>	<b>W+</b>	<b>4 credits</b>	<b>2G</b>		
752-5500-00 G	Applied Bioinformatics: Microbiomes ■	2 hrs	Tue	10-12	LFW C1	<b>N. Bokulich</b>

## ►► Optional Subjects

Number	Title	Type	ECTS	Hours		Lecturers
<b>752-5111-00L</b>	<b>Gene Technology in Foods</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>		
752-5111-00 V	Gene Technology in Foods <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Thu	16-18	LFV E41	<b>F. Constancias</b> , G. Broggini, A. Greppi, F. Orelli
<b>752-1302-00L</b>	<b>Advanced Topics in Toxicology</b> <i>Only for students who have previously taken "Special Topics in Food Toxicology" (752-1301-00L).</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>		
752-1302-00 G	Advanced Topics in Toxicology <i>Permission from lecturers required for all students</i>	2 hrs	Fri	08-10	CHN E42	S. J. Sturla
<b>376-1353-00L</b>	<b>Nanostructured Materials Safety</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>		
376-1353-00 V	Nanostructured Materials Safety	1 hrs	Fri/1	12-14	CHN F46	<b>P. Wick</b>

## ► Major in Nutrition and Health

### ►► Disciplinary Subjects

Number	Title	Type	ECTS	Hours		Lecturers
<b>752-2307-00L</b>	<b>Nutritional Aspects of Food Composition and Processing</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>		
752-2307-00 V	Nutritional Aspects of Food Composition and Processing	2 hrs	Wed	08-10	LFW C5	<b>B. E. Baumer</b> , J. M. Sych
<b>752-6101-00L</b>	<b>Dietary Etiologies of Chronic Disease</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>		
752-6101-00 V	Dietary Etiologies of Chronic Disease	2 hrs	Thu	08-10	CAB G11	<b>M. B. Zimmermann</b>
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>		
752-6105-00 V	Epidemiology and Prevention	2 hrs	Wed	12-14	CHN C14	<b>M. Puhán</b> , R. Heusser

### ►► Methodology Subjects

Number	Title	Type	ECTS	Hours		Lecturers
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W+</b>	<b>5 credits</b>	<b>2V+1U</b>		
401-0625-01 V	Applied Analysis of Variance and Experimental Design	2 hrs	Mon	14-16	HG G5	<b>L. Meier</b>
401-0625-01 U	Applied Analysis of Variance and Experimental Design	1 hrs	Mon/2w	16-18	HG E1.1	<b>L. Meier</b>
<b>401-0649-00L</b>	<b>Applied Statistical Regression</b>	<b>W+</b>	<b>5 credits</b>	<b>2V+1U</b>		
401-0649-00 V	Applied Statistical Regression	2 hrs	Mon	08-10	HG E1.2	<b>M. Dettling</b>
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>	1 hrs	Mon/2w	10-12	HG E1.2	<b>M. Dettling</b>
<b>752-5500-00L</b>	<b>Applied Bioinformatics: Microbiomes</b>	<b>W+</b>	<b>4 credits</b>	<b>2G</b>		
752-5500-00 G	Applied Bioinformatics: Microbiomes ■	2 hrs	Tue	10-12	LFW C1	<b>N. Bokulich</b>

## ►► Optional Subjects

Number	Title	Type	ECTS	Hours		Lecturers
<b>752-5103-00L</b>	<b>Functional Microorganisms in Foods</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
752-5103-00 G	Functional Microorganisms in Foods ■ <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Wed	14-16	HG D7.1	<b>C. Lacroix</b> , A. Geirnaert, A. Greppi
<b>752-6301-00L</b>	<b>Selected Topics in Physiology Related to Nutrition</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
752-6301-00 V	Selected Topics in Physiology Related to Nutrition	2 hrs	Thu	10-12	CAB G51	<b>F. von Meyenn</b>
<b>752-6403-00L</b>	<b>Nutrition and Performance</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>		
752-6403-00 V	Nutrition and Performance	2 hrs	Thu	14-16	ML E12	<b>S. Mettler</b> , M. B. Zimmermann
<b>752-5111-00L</b>	<b>Gene Technology in Foods</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
752-5111-00 V	Gene Technology in Foods <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Thu	16-18	LFV E41	<b>F. Constancias</b> , G. Broggini, A. Greppi, F. Orelli
<b>752-1301-00L</b>	<b>Special Topics in Toxicology</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>		
752-1301-00 G	Special Topics in Toxicology	2 hrs	Fri	08-10	CHN E42	<b>K. Hecht</b>

<b>766-6205-00L</b>	<b>Nutrient Analysis in Foods</b>	<b>W</b>	<b>3 credits</b>	<b>3U</b>				
<i>Number of participants limited to 15. Permission from lecturers required for all students.</i>								
766-6205-00 U	Nutrient Analysis in Foods ■			45s hrs	31.01.-09.02.	08-17	LFV E41	<b>J. Rigutto</b>
<i>Permission from lecturers required for all students Block course from 31.01.2022 to 09.02.2022. The course starts at 9:00 am on 31.01.2021 in the Laboratory of Human Nutrition LFV D-floor laboratories, This course also includes a half-day cooking preparation in mid-December 2021, lectures via Moodle, oral presentations that take place on 18.02.2022 in the afternoon and a written report to be submitted by 25.02.2022. The detailed program will be announced separately.</i>								

## ► Major in Human Health, Nutrition and Environment

### ►► Module

### ►►► Module Public Health

*The module Public Health is compulsory for all students in the major Human Health, Nutrition and Environment.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-0629-00L</b>	<b>Applied Biostatistics</b>	<b>W+</b>	<b>4 credits</b>	<b>3G</b>					
401-0629-00 G	Applied Biostatistics			3 hrs	Tue	13-16	CAB G51		<b>M. Tanadini</b>
<i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>									
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-6105-00 V	Epidemiology and Prevention			2 hrs	Wed	12-14	CHN C14		<b>M. Puhan, R. Heusser</b>
<b>752-6151-00L</b>	<b>Public Health Concepts</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>					
752-6151-00 V	Public Health Concepts			2 hrs	Mon 27.09.	14-16	HG D1.1 CHN G42		<b>R. Heusser</b>

### ►►► Module Infectious Diseases

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1703-00L</b>	<b>Evolutionary Medicine for Infectious Diseases</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
<i>Number of participants limited to 35.  Waiting list will be deleted October 3rd, 2021.</i>									
701-1703-00 G	Evolutionary Medicine for Infectious Diseases			2 hrs	Fri	10-12	HG E41		<b>A. Hall</b>
<b>701-1471-00L</b>	<b>Ecological Parasitology</b>	<b>W</b>	<b>3 credits</b>	<b>1V+1P</b>					
<i>Number of participants limited to 20. A minimum of 6 students is required that the course will take place.  Waiting list will be deleted on October 1st, 2021.</i>									
701-1471-00 V	Ecological Parasitology ■			14s hrs	Tue	08-10	CHN G46		<b>J. Jokela, C. Vorbürger</b>
<i>The lecture takes place irregularly.</i>									
701-1471-00 P	Ecological Parasitology ■			12s hrs	05.10. 19.10. 09.11.	08-12 08-12 08-12	EAW -EAWAG EAW -EAWAG EAW -EAWAG		<b>J. Jokela, C. Vorbürger</b>
<i>Daten der Veranstaltung: 05.10.; 19.10.; 09.11 Zeit: 8:15 - 12:00 Ort der Veranstaltung: EAWAG Dübendorf</i>									
<b>551-0223-00L</b>	<b>Immunology III</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
551-0223-00 V	Immunology III			2 hrs	Mon	10-12	HCI H8.1		<b>M. Kopf, S. B. Freigang, J. Kisielow, S. R. Leibundgut, A. Oxenius, C. Schneider, R. Spörri, L. Tortola, E. Wetter Slack</b>
<b>752-4009-00L</b>	<b>Molecular Biology of Foodborne Pathogens</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-4009-00 V	Molecular Biology of Foodborne Pathogens			2 hrs	Thu	10-12	HG E1.2		<b>M. Loessner, M. Schmelcher, M. Schuppler, E. Wetter Slack</b>
<b>701-0263-01L</b>	<b>Seminar in Evolutionary Ecology of Infectious Diseases</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-0263-01 G	Seminar in Evolutionary Ecology of Infectious Diseases			2 hrs	Tue	16-18	CHN F42		<b>R. R. Regös, S. Bonhoeffer</b>

### ►►► Module Nutrition and Health

Number	Title	Type	ECTS	Hours					Lecturers
<b>752-6101-00L</b>	<b>Dietary Etiologies of Chronic Disease</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-6101-00 V	Dietary Etiologies of Chronic Disease			2 hrs	Thu	08-10	CAB G11		<b>M. B. Zimmermann</b>
<b>752-2122-00L</b>	<b>Food and Consumer Behaviour</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
752-2122-00 V	Food and Consumer Behaviour			2 hrs	Mon	10-12	LFV B1		<b>M. Siegrist, C. Hartmann</b>
<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>									

752-5103-00L	Functional Microorganisms in Foods ■	W	3 credits	2G					
752-5103-00 G	Functional Microorganisms in Foods ■ <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG D7.1	C. Lacroix, A. Geirnaert, A. Greppi	

►►► Module Environment and Health									
Number	Title	Type	ECTS	Hours					Lecturers
701-1341-00L	Water Resources and Drinking Water	W	3 credits	2G					
701-1341-00 G	Water Resources and Drinking Water <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	08-10	CAB G11	S. Hug, M. Berg, F. Hammes, U. von Gunten	
376-1353-00L	Nanostructured Materials Safety	W	2 credits	1V					
376-1353-00 V	Nanostructured Materials Safety			1 hrs	Fri/1	12-14	CHN F46	P. Wick	

►► Term Paper									
Number	Title	Type	ECTS	Hours					Lecturers
701-1701-00L	Human Health, Nutrition and Environment: Term Paper <i>Only for students of the Major Human Health, Nutrition and Environment.</i>	O	6 credits	13A					
701-1701-00 A	Human Health, Nutrition and Environment: Term Paper ■ <i>Permission from lecturers required for all students The introduction of the term paper course takes place on 30th Sept 2021 from 16:15 to 18:00 h. An additional compulsory input lecture takes place on 25th Nov 2021 from 16:15 to 18:00 h. Dates for oral presentation are 17th and 18th Feb 2022.</i>			180s hrs				J. Nuessli Guth, T. Julian, K. McNeill, M. B. Zimmermann	
<i>More details and locations are announced separately.</i>									

►► Methodology Subjects									
<i>The courses are offered in the spring semester</i>									
► Minors									
►► Food Biotechnology									
Number	Title	Type	ECTS	Hours					Lecturers
752-5105-00L	Biotechnology of Alcoholic Beverage Production <i>Number of participants limited to 30.</i>	W+	2 credits	2V					
752-5105-00 V	Biotechnology of Alcoholic Beverage Production			2 hrs	Fri	12-14	LFV E41	R. Mira de Orduna Heidinger, A. Bühlmann, S. Schönenberg	
752-5111-00L	Gene Technology in Foods	W	3 credits	2V					
752-5111-00 V	Gene Technology in Foods <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	16-18	LFV E41	F. Constancias, G. Broggini, A. Greppi, F. Orelli	
752-5103-00L	Functional Microorganisms in Foods ■	W	3 credits	2G					
752-5103-00 G	Functional Microorganisms in Foods ■ <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG D7.1	C. Lacroix, A. Geirnaert, A. Greppi	

►► Food Chemistry									
Number	Title	Type	ECTS	Hours					Lecturers
752-1021-00L	Food Enzymology	W+	3 credits	2G					
752-1021-00 G	Food Enzymology			2 hrs	Tue	14-16	LFV E41	L. Nyström, M. Erzinger	
529-0041-00L	Modern Mass Spectrometry, Hyphenated W Methods, and Chemometrics		6 credits	3G					
529-0041-00 G	Moderne Massenspektroskopie, gekoppelte Analysenmethoden, Chemometrie			3 hrs	Mon Wed	10-12 12-13	HCI H2.1 HCI H2.1	R. Zenobi, B. Hattendorf, P. Sinués Martinez-Lozano	

►► Food Microbiology									
Number	Title	Type	ECTS	Hours					Lecturers
752-4009-00L	Molecular Biology of Foodborne Pathogens	W+	3 credits	2V					
752-4009-00 V	Molecular Biology of Foodborne Pathogens			2 hrs	Thu	10-12	HG E1.2	M. Loessner, M. Schmelcher, M. Schuppler, E. Wetter Slack	
752-5103-00L	Functional Microorganisms in Foods ■	W	3 credits	2G					
752-5103-00 G	Functional Microorganisms in Foods ■ <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG D7.1	C. Lacroix, A. Geirnaert, A. Greppi	

## ►► Food Process Design

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-3021-00L</b>	<b>Food Process Design and Optimization</b>	<b>W+</b>	<b>4 credits</b>	<b>2G</b>				
752-3021-00 G	Food Process Design and Optimization			2 hrs	Wed	08-10	LFW E13	<b>E. J. Windhab</b>
<b>752-3023-00L</b>	<b>Process Measurements and Automation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
752-3023-00 G	Process Measurements and Automation			2 hrs	Thu	08-10	CLA E4	<b>E. J. Windhab</b>

## ►► Food Sensory Science and Consumer Behaviour

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-2122-00L</b>	<b>Food and Consumer Behaviour</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
752-2122-00 V	Food and Consumer Behaviour <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	10-12	LFW B1	<b>M. Siegrist, C. Hartmann</b>

## ►► Public Nutrition and Health

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-6101-00L</b>	<b>Dietary Etiologies of Chronic Disease</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-6101-00 V	Dietary Etiologies of Chronic Disease			2 hrs	Thu	08-10	CAB G11	<b>M. B. Zimmermann</b>
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-6105-00 V	Epidemiology and Prevention			2 hrs	Wed	12-14	CHN C14	<b>M. Puhon, R. Heusser</b>

## ►► Safety and Quality in Agri-Food Chain

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-2122-00L</b>	<b>Food and Consumer Behaviour</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
752-2122-00 V	Food and Consumer Behaviour <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	10-12	LFW B1	<b>M. Siegrist, C. Hartmann</b>
<b>752-2307-00L</b>	<b>Nutritional Aspects of Food Composition and Processing</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-2307-00 V	Nutritional Aspects of Food Composition and Processing			2 hrs	Wed	08-10	LFW C5	<b>B. E. Baumer, J. M. Sych</b>
<b>751-6001-00L</b>	<b>Forum: Livestock in the World Food System</b>	<b>W</b>	<b>2 credits</b>	<b>1S</b>				
751-6001-00 S	Forum: Livestock in the World Food System <i>Durchführung gemäss speziellem Programm.</i>			1 hrs	Wed	08-10	LFW C1	<b>S. Meese</b>
<b>752-5111-00L</b>	<b>Gene Technology in Foods</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-5111-00 V	Gene Technology in Foods <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	16-18	LFV E41	<b>F. Constancias, G. Broggini, A. Greppi, F. Orelli</b>
<b>751-7310-00L</b>	<b>Bioactive Food and Feed Components</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
751-7310-00 V	Bioactive Food and Feed Components <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Tue	08-10	LFW C11	<b>K. Giller</b>

## ►► Food Physics

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-3103-00L</b>	<b>Food Rheology I</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-3103-00 V	Food Rheology I			2 hrs	Tue	08-10	LFO C13	<b>P. A. Fischer</b>
<b>752-2314-00L</b>	<b>Physics of Food Colloids</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-2314-00 V	Physics of Food Colloids			2 hrs	Tue	10-12	ML F36	<b>P. A. Fischer, R. Mezzenga</b>

## ►► Food Toxicology

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-1301-00L</b>	<b>Special Topics in Toxicology</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
752-1301-00 G	Special Topics in Toxicology			2 hrs	Fri	08-10	CHN E42	<b>K. Hecht</b>
<b>752-1302-00L</b>	<b>Advanced Topics in Toxicology</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
752-1302-00 G	Advanced Topics in Toxicology <i>Only for students who have previously taken "Special Topics in Food Toxicology" (752-1301-00L). Permission from lecturers required for all students</i>			2 hrs	Fri	08-10	CHN E42	<b>S. J. Sturla</b>
<b>752-4009-00L</b>	<b>Molecular Biology of Foodborne Pathogens</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-4009-00 V	Molecular Biology of Foodborne Pathogens			2 hrs	Thu	10-12	HG E1.2	<b>M. Loessner, M. Schmelcher, M. Schuppler, E. Wetter Slack</b>
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-6105-00 V	Epidemiology and Prevention			2 hrs	Wed	12-14	CHN C14	<b>M. Puhon, R. Heusser</b>

376-1353-00L	Nanostructured Materials Safety	W	2 credits	1V					
376-1353-00 V	Nanostructured Materials Safety			1 hrs	Fri/1	12-14	CHN F46	P. Wick	

## ►► Electives

Number	Title	Type	ECTS	Hours	Lecturers				
752-0005-00L	Colloquium in Food and Nutrition Science	W	1 credit	2K					
752-0005-00 K	Colloquium in Food and Nutrition Science			2 hrs	Tue	18-20	LFO C13	S. J. Sturla	

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers				
752-0230-00L	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme;</i> <i>c. has acquired at least 30 CPs in the master programme.</i>  <i>The topic of the thesis and - if they are not Professors of D-HEST - the examiner and the co-examiner have to be approved by the D-HEST Department Conference.</i>	O	30 credits	64D					
752-0230-00 D	Master-Arbeit ■			900s hrs	by appt.			Supervisors	

## ► Course Units for Additional Admission Requirements

*The courses below are only available for MSc students with additional admission requirements.*

Number	Title	Type	ECTS	Hours	Lecturers				
752-1000-AAL	<b>Food Chemistry I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R					
752-1000-AA R	Food Chemistry I <i>Self-study course. No presence required.</i>			90s hrs				L. Nyström	
752-1101-AAL	<b>Food Analysis I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R					
752-1101-AA R	Food Analysis I <i>Self-study course. No presence required.</i>			90s hrs				L. Nyström	
752-3000-AAL	<b>Food Process Engineering I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	4 credits	9R					
752-3000-AA R	Food Process Engineering I <i>Self-study course. No presence required.</i>			120s hrs				P. A. Fischer	
752-6001-AAL	<b>Introduction to Nutritional Science</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R					
752-6001-AA R	Introduction to Nutritional Science <i>Self-study course. No presence required.</i>			90s hrs				M. B. Zimmermann, C. Wolfrum	
551-0001-AAL	<b>General Biology I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R					

551-0001-AA R	General Biology I <i>Self-study course. No presence required. Please contact Prof. Uwe Sauer for further information.</i>			90s hrs	<b>U. Sauer, O. Y. Martin, A. Widmer</b>
<b>406-0063-AAL</b>	<b>Physics II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	
406-0063-AA R	Physics II <i>Self-study course. No presence required.</i>			150s hrs	<b>A. Vaterlaus</b>
<b>406-0603-AAL</b>	<b>Stochastics (Probability and Statistics)</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	
406-0603-AA R	Stochastics (Probability and Statistics) <i>Self-study course. No presence required.</i>			120s hrs	<b>M. Kalisch</b>
<b>752-4001-AAL</b>	<b>Microbiology</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>2 credits</b>	<b>4R</b>	
752-4001-AA R	Microbiology <i>Self-study course. No presence required.</i>			60s hrs	<b>M. Ackermann</b>
<b>701-0071-AAL</b>	<b>Mathematics III: Systems Analysis</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	
701-0071-AA R	Mathematics III: Systems Analysis <i>Self-study course. No presence required. Please contact Prof. Reto Knutti for further information.</i>			120s hrs	<b>R. Knutti, H. Wernli</b>
<b>752-4005-AAL</b>	<b>Food Microbiology I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>	
752-4005-AA R	Food Microbiology I <i>Self-study course. No presence required.</i>			90s hrs	<b>M. Loessner</b>
<b>551-0003-AAL</b>	<b>General Biology I+II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>7 credits</b>	<b>13R</b>	
551-0003-AA R	General Biology I+II <i>Self-study course. No presence required. Please contact Prof. Uwe Sauer for further information.</i>			180s hrs	<b>U. Sauer, K. Bomblies, O. Y. Martin, A. Widmer</b>
<b>752-0100-AAL</b>	<b>Biochemistry</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>2 credits</b>	<b>4R</b>	
752-0100-AA R	Biochemistry <i>Self-study course. No presence required.</i>			60s hrs	<b>C. Frei</b>
<b>752-6306-AAL</b>	<b>Physiology and Anatomy II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students)</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>	

**CANNOT enrol for this course unit.**

752-6306-AA R Physiology and Anatomy II  
*Self-study course. No presence required.*

90s hrs

**D. Burdakov, M. Ristow**

#### Food Science Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.



# Food Science Bachelor

## ► 1. Semester

### ►► First Year Examinations

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-2001-02L</b>	<b>Chemistry I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
529-2001-02 V	Chemie I <i>Vorlesung im HG F1 mit Videoübertragung ins HG F3.</i>			2 hrs	Tue	08-10	HG F1 HG F3	<b>J. Cvengros</b>
529-2001-02 U	Chemie I <i>Übungen:</i>  <i>Mi 14-16 für Umweltingenieurwissenschaften</i> <i>Do 10-12 für Agrar-, Lebensmittel-, Erdwissenschaften</i> <i>Fr 8-10 für Umweltnaturwissenschaften</i>			2 hrs	Wed Thu	14-16 10-12	CHN C14 ETZ E8 ETZ H91 HG G26.3 IFW A34 IFW B42	<b>J. Cvengros</b> , J. E. E. Buschmann, P. Funck, E. C. Meister, R. Verel
					Fri	08-10	ETZ J91 IFW A36	
<b>401-0251-00L</b>	<b>Mathematics I</b>	<b>O</b>	<b>6 credits</b>	<b>4V+2U</b>				
401-0251-00 V	Mathematik I: Analysis I und Lineare Algebra			4 hrs	Mon Wed Thu	09-10 12-14 09-10	HG E7 HG E7 HG E7	<b>F. Da Lio</b>
401-0251-00 U	Mathematik I: Analysis I und Lineare Algebra <i>Groups are selected in myStudies.</i> <i>Die Übungen beginnen in der zweiten Semesterwoche.</i> <i>Mo 14-16 für Studiengänge Erd- und Klimawissenschaften bzw. Umweltnaturwissenschaften.</i> <i>Di 14-16 für Studiengänge Agrarwissenschaften bzw. Lebensmittelwissenschaften.</i>  <i>Zusätzlich wird das Mathe-Lab (Präsenzstunden) angeboten: Mo 16-18 in CAB G 51 und Di 12-14 in HG E 1.2.</i>			2 hrs	Mon	14-16	CHN D44 CHN F42 ETZ E9 ETZ G91 ETZ H91 ETZ K91 HG F26.5 LFW C4 CAB G56 CLA E4 LFO C13 LFW C5 RZ F21	<b>F. Da Lio</b>
					Tue	14-16		
<b>551-0001-00L</b>	<b>General Biology I</b>	<b>O</b>	<b>3 credits</b>	<b>3V</b>				
551-0001-00 V	Biologie I: Allgemeine Biologie I			3 hrs	Wed Fri	09-10 10-12	ML D28 ETF C1	<b>U. Sauer</b> , O. Y. Martin, A. Widmer
<b>701-0243-01L</b>	<b>Biology III: Essentials of Ecology</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
701-0243-01 V	Biologie III: Ökologie <i>Vorlesung im HG F 1 mit Videoübertragung ins HG F 3.</i>			2 hrs	Mon	10-12	HG F1 HG F3	<b>C. Buser Moser</b>
<b>701-0027-00L</b>	<b>Environmental Systems I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
701-0027-00 V	Umweltsysteme I			2 hrs	Tue	10-12	HG F7	<b>C. Schär</b> , N. Dubois, G. Velicer
<b>751-0013-00L</b>	<b>World Food System</b>	<b>O</b>	<b>4 credits</b>	<b>4V</b>				
751-0013-00 V	Welternährungssystem (World Food System)			4 hrs	Mon Fri	14-16 08-10	CAB G61 CAB G61	<b>A. K. Gilgen</b> , J. Baumgartner, A. Bearth, R. Finger, M. Loessner, R. Mezzenga, B. Studer
<b>351-1158-00L</b>	<b>Principles of Economics</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
351-1158-00 G	Ökonomie <i>In classroom, online via livestreaming or zoom and recorded (Einführungsvorlesung 22.9. sowie Gastvorlesung 10.11.).</i> <i>In classroom, online via livestreaming or zoom, not recorded (4 groups); 6 Präsenzveranstaltungen.</i> <i>Online via livestreaming or zoom and recorded (1 group only zoom, this will be recorded).</i>			2 hrs	Wed	10-12	HG E41 LEE C104 LEE C114 LEE D101 LEE D105 ML D28 ML E12	<b>U. Renold</b> , T. Bolli, P. McDonald, M. E. Oswald- Egg, F. Pusterla

### ►► Additional First Year Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0839-00L</b>	<b>Informatics</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>				
252-0839-00 G	Einsatz von Informatikmitteln <i>Vorlesung: Fr 14-16 Uhr</i> <i>Individuelle Präsentation Projektaufgaben: restliche Zeiten alle 2 Wochen nach Voranmeldung</i>			2 hrs	Mon	18-19	HG E19 HG E26.3 HG E27	<b>L. E. Fässler</b> , M. Dahinden
					Thu	18-19	HG E19 HG E26.1 HG E26.3 HG E27	
					Fri	14-16 16-18	HG F7 HG E19 HG E26.1 HG E26.3 HG E27	
<b>751-0801-00L</b>	<b>Fundamentals of Microscopy and Plant Biology</b>	<b>O</b>	<b>1 credit</b>	<b>1V+2G</b>				
751-0801-00 V	Grundlagen der Mikroskopie und Pflanzenbiologie <i>Die genauen Unterrichtszeiten von ONLINE - Veranstaltungen werden von den Dozierenden kommuniziert.</i>			1 hrs	Fri	13-14	ON LINE	<b>E. B. Truernit</b>

751-0801-00 G	Grundlagen der Mikroskopie und Pflanzenbiologie <i>Groups are selected in myStudies. Beginn der Lehrveranstaltung in der zweiten Semesterwoche</i>	2 hrs	Mon/2w	12-14	LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11	<b>E. B. Truernit</b>
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------	-------	--------	-------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------

529-0030-00L	Laboratory Course: Elementary Chemical Techniques	O	3 credits	6P					
529-0030-00 P	Praktikum Chemie Vorwiegend BSc UWIS: Kurs 1 Vorwiegend BSc ERD, AGR, LM: Kurs 2			6 hrs	17.01. 08-10 17.01.- 08-10 04.02.		CHN E46 CHN D42  CHN D44 CHN D46 CHN G22 CHN D42 CHN D44 CHN D46 CHN G22 19.01. 09-14 21.01. 13-17 24.01. 08-10 26.01. 09-14 28.01. 13-17 31.01. 08-10 02.02. 09-14 04.02. 13-17	N. Kobert, A. de Mello, M. H. Schroth	

### ► 3. Semester

#### ►► Basic Courses II

#### ►►► Examination Block 1

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0063-00L</b>	<b>Physics II</b>	<b>O</b>	<b>5 credits</b>	<b>3V+1U</b>					
402-0063-00 V	Physik II			3 hrs	Mon	13-14	ML D28		<b>A. Vaterlaus</b>
					Wed	13-15	HPH G2		
402-0063-00 U	Physik II <i>Fr 8-9 Uhr im Zentrum für UMNW Studierende</i>			1 hrs	Wed	15-16	HCI D4 HCI D6 HCI E8 HCI F2 HCI F8 HCI J8 HIL C10.2 HIL E5 HIT H42 HIT J51 HPK D24.2 HG E21		<b>A. Vaterlaus</b>
					Fri	08-09			
<b>701-0071-00L</b>	<b>Mathematics III: Systems Analysis</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>					
701-0071-00 V	Mathematik III: Systemanalyse			2 hrs	Fri	10-12	ML D28		<b>R. Knutti</b> , S. Schemm, H. Wernli
701-0071-00 U	Mathematik III: Systemanalyse			1 hrs	Mon	11-12	CAB G57 CHN F46 HG E33.3 HG F26.5 HG G26.3 LEE D101 LEE D105 LEE E101 ML E12 ML F34 NO E11 NO E39		<b>L. Brunner</b> , S. Schemm, P. Zschenderlein
<b>752-4001-00L</b>	<b>Microbiology</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>					
752-4001-00 V	Mikrobiologie			2 hrs	Mon	08-10	ML D28		<b>M. Ackermann</b> , M. Schuppler, J. Vorholt-Zambelli
<b>752-0100-00L</b>	<b>Biochemistry</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>					
752-0100-00 V	Biochemie			2 hrs	Mon	14-16	HG E1.1		<b>C. Frei</b>
<b>752-6305-00L</b>	<b>Physiology and Anatomy I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>					
752-6305-00 V	Physiology and Anatomy I			2 hrs	Fri	08-10	LFO C13		<b>D. Burdakov</b> , D. Peleg- Raibstein
<b>701-0225-00L</b>	<b>Organic Chemistry</b>	<b>O</b>	<b>2 credits</b>	<b>2V+1U</b>					

701-0225-00 V	Organic Chemistry <i>Vorlesung/lecture Mi/We 8-10 starts in the first week of the semester;</i>	2 hrs	Wed	08-10	CHN C14	<b>K. McNeill</b>
701-0225-00 U	Organic Chemistry <i>Exercises start in the second week of the semester. Students choose one of three exercises.</i>	1 hrs	Mon Wed Fri	16-17 12-13 13-14	CHN G22 CHN G22 CHN D42	<b>K. McNeill</b>

## ▶▶▶ Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0624-00L</b>	<b>Mathematics IV: Statistics</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>				
401-0624-00 V	Mathematik IV: Statistik			2 hrs	Thu	08-10	ML D28	<b>J. Ernest</b>
401-0624-00 U	Mathematik IV: Statistik <i>Groups are selected in myStudies. Do 10-11 für Studiengang Lebensmittelwissenschaften. Do 13-14 für Studiengang Agrarwissenschaften. Do 16-17 für Studiengang Erd- und Klimawissenschaften. Fr 9-10 für Studiengang Umweltnaturwissenschaften. Do 18-19 als Online-Übung ausschliesslich für Studierende, welche nicht an den regulären Übungen in Präsenz teilnehmen können.</i>			1 hrs	Thu	10-11	ML F34 ML J34.1 HG E33.1 NO C44 ON LINE CAB G59 LFW E13 ML F40	<b>J. Ernest</b>
<b>752-0180-00L</b>	<b>Principles in Food Science</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
752-0180-00 V	Grundlagen in Lebensmittelwissenschaften			2 hrs	Wed	10-12	CHN C14	<b>S. J. Sturla</b> , P. A. Fischer, E. Wetter Slack

## ▶▶▶ Additional Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>402-0000-02L</b>	<b>Laboratory Course in Physics for Students in Food Sciences</b> <i>Enrollment is only possible under <a href="https://www.lehrbetrieb.ethz.ch/laborpraktika">https://www.lehrbetrieb.ethz.ch/laborpraktika</a>. No registration required via myStudies. For further information visit: <a href="https://ap.phys.ethz.ch">https://ap.phys.ethz.ch</a></i>	<b>O</b>	<b>2 credits</b>	<b>4P</b>				
402-0000-02 P	Praktikum Physik für Studierende in Lebensmittelwissenschaften <i>Das Praktikum wird remote angeboten..  Am 21.09.2021 findet online eine Q&amp;A Session statt. Weiter Informationen unter <a href="https://ap.phys.ethz.ch">https://ap.phys.ethz.ch</a></i>			4 hrs	Tue	08-12	HPP	<b>A. Biland</b> , A. Müller
<b>752-4003-00L</b>	<b>Practical Course in Microbiology</b>	<b>O</b>	<b>2 credits</b>	<b>3P</b>				
752-4003-00 P	Praktikum Mikrobiologie <i>Beginnt am 21. Oktober 2021 (7 Kurstage). Das Praktikum findet von 11:45 Uhr bis max. 17:30 Uhr statt. Weitere Details zum Ablauf werden separat bekannt gegeben.</i>			3 hrs	Thu	12-18	HCI E396	<b>M. Künzler</b>

## ▶▶ Basics of Food Science

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-1000-00L</b>	<b>Food Chemistry I</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-1000-00 V	Lebensmittelchemie I			2 hrs	Fri	14-16	LFO C13	<b>L. Nyström</b> , S. Boulos, M. Erzinger

## ▶ 5. Semester

### ▶▶ Basics of Food Science

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-5001-00L</b>	<b>Food Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
752-5001-00 V	Food Biotechnology <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon Thu	10-12 09-10	LFV E41 LFV E41	<b>C. Lacroix</b> , F. Constancias, B. Pugin
<b>752-6001-00L</b>	<b>Introduction to Nutritional Science</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-6001-00 V	Introduction to Nutritional Science <i>Course is taught in English (M. Zimmermann) and German (Ch. Wolfrum)</i>			2 hrs	Fri	08-10	HG F7	<b>M. B. Zimmermann</b> , C. Wolfrum
<b>752-4005-00L</b>	<b>Food Microbiology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-4005-00 V	Lebensmittel-Mikrobiologie I			2 hrs	Tue	10-12	HG E1.1	<b>M. Loessner</b>

### ▶▶ Food Science General Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>551-0317-00L</b>	<b>Immunology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0317-00 V	Immunology I			2 hrs	Tue	08-10	HG G3	<b>M. Kopf</b> , A. Oxenius
<b>752-2120-00L</b>	<b>Consumer Behaviour I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				

752-2120-00 V	Consumer Behaviour I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	14-16	HG G3	<b>M. Siegrist</b> , A. Bearth, A. Berthold
<b>752-1003-00L</b>	<b>Food Chemistry II</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-1003-00 V	Lebensmittelchemie II			2 hrs	Thu	10-12	CAB G11	<b>L. Nyström</b> , S. Boulos, M. Erzinger
<b>752-1103-00L</b>	<b>Food Analysis II</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-1103-00 V	Lebensmittelanalytik II			2 hrs	Mon	08-10	LFO C13	<b>T. Gude</b>
<b>752-3001-00L</b>	<b>Food Process Engineering II</b>	<b>W+</b>	<b>3 credits</b>	<b>3G</b>				
752-3001-00 G	Lebensmittel-Verfahrenstechnik II			3 hrs	Mon	13-16	CHN E46	<b>E. J. Windhab</b>
<b>752-2000-00L</b>	<b>Food Materials Science</b>	<b>W+</b>	<b>4 credits</b>	<b>3G</b>				
752-2000-00 G	Food Materials Science			3 hrs	Tue Fri	13-14 10-12	ML F36 LFO C13	<b>R. Mezzenga</b> , G. Nyström
<b>752-6307-00L</b>	<b>Physiology and Anatomy III</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-6307-00 V	Physiology and Anatomy III			2 hrs	Fri	16-18	LFW C5	<b>D. Burdakov</b> , D. Peleg-Raibstein
<b>752-0300-00L</b>	<b>Scientific Practices in Food Science</b> <i>Only for Food Science BSc.</i>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				
752-0300-00 V	Wissenschaftliches Arbeiten in den Lebensmittelwissenschaften <i>Permission from lecturers required for all students</i>			2 hrs	Wed	08-10	LFW B1	<b>L. Nyström</b> , P. A. Fischer

## ►► Food Science Laboratory Practice

Number	Title	Type	ECTS	Hours	Lecturers			
<b>752-4007-00L</b>	<b>Experimental Food Microbiology</b> <i>Number of participants limited to 48.</i>	<b>W</b>	<b>3 credits</b>	<b>4P</b>				
	<i>Registration only after having attended the course Lebensmittel-Mikrobiologie I (752-4005-00L).</i>							
752-4007-00 P	Experimentelle Lebensmittel-Mikrobiologie ■ <i>Das Praktikum wird zweimal als Blockkurs durchgeführt:</i>  <i>Die Platzzuteilung erfolgt gemäss separater Anmeldung. Details werden rechtzeitig bekannt gegeben.</i>			60s hrs				<b>M. Schuppler</b>
<b>752-2002-00L</b>	<b>Food Technology Laboratory Course</b> <i>Number of participants limited to 55</i>	<b>W</b>	<b>2 credits</b>	<b>4P</b>				
	<i>Prerequisite: Attendance of the course 752-2001-00L "Food Technology".</i>							
752-2002-00 P	Lebensmittel-Technologiepraktikum ■ <i>Permission from lecturers required for all students</i> <i>Das detaillierte Programm mit den genauen Präsenzzeiten und allen Räumen wird separat bekannt gegeben.</i> <i>Es sind mehr Slots eingetragen, um genügend Platz für die einzelnen Versuche zu haben. Effektive Präsenzzeiten weichen davon ab.</i>  <i>Die Einführung ins LT-Praktikum findet am 27.09.2021 statt. Details zum Ort werden separat bekannt gegeben.</i> <i>Der praktische Teil beginnt in der zweiten Semesterwoche.</i>			4 hrs	Wed Thu	10-18 14-18	LFO B14 LFO B14	<b>H. Adelman</b>

## ► Electives

*A list with possible electives will be published separately.*

Number	Title	Type	ECTS	Hours	Lecturers			
	<i>Food Science General Courses can be accounted as electives as well.</i>							
<b>327-1221-00L</b>	<b>Biological and Bio-Inspired Materials</b> <i>Students that already enrolled in this course during their Bachelor's degree studies are not allowed to enrol again in their Master's.</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
327-1221-00 G	Biological and Bio-Inspired Materials			3 hrs	Thu	16-19	HCP E47.4	<b>A. R. Studart</b> , I. Burgert, R. Nicolosi Libanori, G. Panzarasa
<b>529-1100-00L</b>	<b>Fragrance Chemistry</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>				
529-1100-00 V	Fragrance Chemistry <i>Does not take place this semester.</i>			1 hrs				
<b>535-0230-00L</b>	<b>Medicinal Chemistry I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
535-0230-00 V	Medizinische Chemie I			2 hrs	Mon 27.09. 04.10.	10-12 10-12 10-12	HCI J3 HIL E8 HIL E8	<b>J. Hall</b>
<b>851-0626-01L</b>	<b>International Aid and Development</b> <i>Number of participants limited to 60</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
	<i>Prerequisites: Basic knowledge of economics</i>							

851-0626-01 V	International Aid and Development			2 hrs	Tue	12-14	IFW A32.1	<b>K. Harttgen, I. Günther</b>
<b>363-1027-00L</b>	<b>Introduction to Health Economics and Policy</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>				
363-1027-00 V	Introduction to Health Economics and Policy <i>Does not take place this semester. Block course</i>			16s hrs				<b>C. Waibel</b>
<b>363-0387-00L</b>	<b>Corporate Sustainability</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
363-0387-00 G	Corporate Sustainability <i>The course combines online learning elements and live sessions, some of which are recorded. Several course sessions require live attendance. Details are provided on the moodle course page.</i>			2 hrs	Wed/2	16-18	HG E21 HG E22 HG F3 ML E12	<b>V. Hoffmann, C. Bening-Bach, N. U. Blum, J. Meuer</b>
<b>701-0985-00L</b>	<b>Social Intercourse with Current Environmental Risks</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>				
701-0985-00 V	Gesellschaftlicher Umgang mit aktuellen Umweltrisiken <i>Does not take place this semester.</i>			1 hrs				<b>B. Nowack</b>
<b>860-0023-00L</b>	<b>International Environmental Politics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
860-0023-00 V	International Environmental Politics <i>Particularly suitable for students of D-ITET, D-USYS</i>			2 hrs	Mon	16-18	HG F3	<b>T. Bernauer</b>
<b>851-0735-10L</b>	<b>Business Law</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
	<i>Number of participants limited to 100</i>  <i>Particularly suitable for students of D-ITET, D-MAVT</i>							
851-0735-10 V	Wirtschaftsrecht			2 hrs	Thu	14-16	HG D1.2	<b>P. Peyrot</b>
<b>101-0515-00L</b>	<b>Project Management</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
101-0515-00 G	Projektmanagement			2 hrs	Fri	14-16	HIL E1	<b>C. G. C. Marxt</b>
<b>151-0757-00L</b>	<b>Environmental Management</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
151-0757-00 G	Umwelt-Management <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Wed	18-20	ML D28	<b>R. Züst</b>
<b>851-0180-00L</b>	<b>Research Ethics</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
	<i>Number of participants limited to 40</i>  <i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>							
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1	<b>G. Achermann, P. Emch</b>
<b>363-0453-00L</b>	<b>Strategic Supply Chain Management</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
363-0453-00 G	Strategic Supply Chain Management <i>The lecture takes place online via livestreaming or zoom and recorded. The reserved room is meant for those students who want to follow the course from Zentrum campus.</i>			2 hrs	Wed	08-10	HG E1.1	<b>S. Wagner</b>
<b>535-0667-00L</b>	<b>Communication and Social Competences</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>				
535-0667-00 V	Kommunikation und soziale Kompetenz <i>Findet im Rahmen der Einführungsvorlesung in die Pharmazeutischen Wissenschaften statt.</i>			8s hrs				<b>J. Stadelwieser</b>
<b>701-0703-00L</b>	<b>Environmental Ethics</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
701-0703-00 V	Ethik und Umwelt			2 hrs	Fri	12-14	HG F7	<b>A. Deplazes Zemp</b>
<b>376-1581-00L</b>	<b>Cancer: Fundamentals, Origin and Therapy</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
376-1581-00 G	Krebs: Grundlagen, Ursachen und Therapie			2 hrs	Tue	10-12	HG D7.2	<b>H. Nägeli</b>

## ► Bachelor's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>752-0220-20L</b>	<b>Bachelor's Thesis</b>	<b>O</b>	<b>15 credits</b>	<b>32D</b>	
752-0220-20 D	Bachelor-Arbeit ■ <i>Themen können auf <a href="http://www.hetz.ethz.ch/studium/lebensmittelwissenschaft/bachelor-lm/bachelor-arbeit.html">http://www.hetz.ethz.ch/studium/lebensmittelwissenschaft/bachelor-lm/bachelor-arbeit.html</a> eingesehen werden.</i>			450s hrs by appt.	Lecturers

## Food Science Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Management, Technology and Economics (General Courses)

## ► General Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>351-0778-00L</b>	<b>Discovering Management</b> <i>Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercises) 351-0778-01.</i>	<b>Z</b>	<b>3 credits</b>	<b>3G</b>					
351-0778-00 G	Discovering Management <i>Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Fri	08-11	HG E1.1		<b>B. Clarysse</b> , S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe
<b>351-0778-01L</b>	<b>Discovering Management (Exercises)</b> <i>Complementary exercises for the module Discovering Management.</i>	<b>Z</b>	<b>1 credit</b>	<b>1U</b>					
	<i>Prerequisite: Participation and successful completion of the module Discovering Management (351-0778-00L) is mandatory.</i>								
351-0778-01 U	Discovering Management (Exercises)			1 hrs	Fri	11-12	HG E1.1		<b>B. Clarysse</b> , L. P. T. Vandeweghe
<b>351-0555-00L</b>	<b>Open- and User Innovation</b>	<b>Z</b>	<b>3 credits</b>	<b>2G</b>					
351-0555-00 G	Open- and User Innovation <i>Block course The Kick-off event will take place ONLINE, 22.09.2021 from 14.00 - 16.00.</i>			23s hrs	22.09. 14-16 25.10. 09-17 26.10. 09-17 27.10. 09-17		ON LINE ML H37.1 ML H37.1 ML H37.1		<b>S. Häfliger</b> , S. Spaeth
<b>363-0511-00L</b>	<b>Managerial Economics</b> <i>Not for MSc students belonging to D-MTEC!</i>	<b>Z</b>	<b>4 credits</b>	<b>3V</b>					
363-0511-00 V	Managerial Economics			3 hrs	Tue Wed	18-19 08-10	HG F5 HG G3		<b>V. Lohmann</b> , P. Egger, M. Köthenbürger

### Management, Technology and Economics (General Courses) - Key for Type

O	Compulsory	Z	Courses outside the curriculum
W+	Eligible for credits and recommended	Dr	Suitable for doctorate
W	Eligible for credits	E-	Recommended, not eligible for credits

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Management, Technology and Economics Master

Welcome and Introduction to MSc ETH MTEC  
Monday, 20.09.2021, 14.00 - 15.15 h, HG E 1.1 (tbc)

## ► Core Courses

### ►► General Management and Human Resource Management

Number	Title	Type	ECTS	Hours					Lecturers
<b>363-0341-00L</b>	<b>Introduction to Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>Z. Zagorac-Uremovic,</b> J. O'Neil
363-0341-00 G	Introduction to Management <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	16-18	HG F7		

### ►► Strategy, Markets and Technology

Number	Title	Type	ECTS	Hours					Lecturers
<b>363-0387-00L</b>	<b>Corporate Sustainability</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>V. Hoffmann,</b> C. Bening-Bach, N. U. Blum, J. Meuer
363-0387-00 G	Corporate Sustainability <i>The course combines online learning elements and live sessions, some of which are recorded. Several course sessions require live attendance. Details are provided on the moodle course page.</i>			2 hrs	Wed/2	16-18	HG E21 HG E22		
					Wed	16-18	HG F3		
					Wed/2	16-18	ML E12		
<b>363-0403-00L</b>	<b>Introduction to Marketing</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>S. Brüggemann,</b> F. von Wangenheim
363-0403-00 G	Introduction to Marketing <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Tue	14-16	HG E5		
<b>363-0392-00L</b>	<b>Strategic Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>Y. R. Shrestha</b>
363-0392-00 G	Strategic Management <i>Number of participants limited to 80.</i> <i>Permission from lecturers required for all students</i> <i>Irregular lecture</i> <i>Presentation slots for case studies will be communicated in class.</i> <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded. An exception of course is the guest lecturers and presentations which will only be livestreamed and not recorded.</i>			2 hrs	Mon	16-19	ML F39 ML H44		
<b>363-0389-00L</b>	<b>Technology and Innovation Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>S. Brusoni,</b> A. Zeijen
363-0389-00 G	Technology and Innovation Management <i>The lecture takes place in classroom, online via zoom and recorded.</i>			2 hrs	Mon	14-16 27.09.	NO C60 HG D1.2		

### ►► Information Management and Operations Management

Number	Title	Type	ECTS	Hours					Lecturers
<b>363-0421-00L</b>	<b>Mastering Digital Business Models</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>E. Fleisch</b>
363-0421-00 G	Mastering Digital Business Models <i>Number of participants limited to 110</i> <i>The lecture takes place in classroom, online via zoom and recorded.</i>			2 hrs	Tue	08-10	ML H44		
<b>363-0445-00L</b>	<b>Production and Operations Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>T. Netland</b>
363-0445-00 G	Production and Operations Management <i>This course can be followed fully online and offers extracurricular opportunities for students who want to engage with the teaching staff in the classroom.</i>			2 hrs	Thu	14-16	CAB G11		
<b>363-0453-00L</b>	<b>Strategic Supply Chain Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>S. Wagner</b>
363-0453-00 G	Strategic Supply Chain Management <i>The lecture takes place online via livestreaming or zoom and recorded. The reserved room is meant for those students who want to follow the course from Zentrum campus.</i>			2 hrs	Wed	08-10	HG E1.1		

### ►► Quantitative and Qualitative Methods for Solving Complex Problems

Number	Title	Type	ECTS	Hours					Lecturers
<b>363-0305-00L</b>	<b>Empirical Methods in Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>S. Tillmanns</b>
363-0305-00 G	Empirical Methods in Management <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Wed	14-16	HG E1.1		
<b>363-1004-00L</b>	<b>Operations Research</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					<b>S. Bütikofer van Oordt</b>
363-1004-00 G	Operations Research <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Mon	08-10	ML F39		
<b>363-0541-00L</b>	<b>Systems Dynamics and Complexity</b>	<b>W+</b>	<b>3 credits</b>	<b>3G</b>					<b>F. Schweitzer</b>
363-0541-00 G	Systems Dynamics and Complexity <i>Lecture: Thursday, 08-10 h</i> <i>Exercises: Tuesday, 12-13 h</i> <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Tue Thu	12-13 08-10	HG D1.2 HG D1.2		

### ►► Micro and Macroeconomics

Number	Title	Type	ECTS	Hours					Lecturers
--------	-------	------	------	-------	--	--	--	--	-----------



<b>363-0565-00L</b>	<b>Principles of Macroeconomics</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>					
363-0565-00 V	Principles of Macroeconomics <i>Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Tue	16-18	ETA F5 ETF E1	<b>J.-E. Sturm</b>	
<b>363-0503-00L</b>	<b>Principles of Microeconomics</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
	<i>GEES (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L Einführung in die Mikroökonomie.</i>								
363-0503-00 G	Principles of Microeconomics <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	18-20	HG F7	<b>M. Filippini</b>	
<b>363-0537-00L</b>	<b>Resource and Environmental Economics</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Wed	10-12	HG G3	<b>L. Bretschger</b>	
<b>►► Financial Management</b>									
<b>363-0711-00L</b>	<b>Accounting for Managers</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>					
363-0711-00 V	Accounting for Managers <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Thu	10-12	HG F3	<b>J.-P. Chardonens</b>	
<b>363-0561-00L</b>	<b>Financial Market Risks</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
363-0561-00 G	Financial Market Risks <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Mon	10-12	ML H44	<b>D. Sornette</b>	
<b>► Elective Courses</b>									
<b>►► Technology and Innovation</b>									
<b>363-0861-00L</b>	<b>Alliance Advantage - Exploring the Value Creation Potential of Collaborations</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0861-00 G	Alliance Advantage - Exploring the Value Creation Potential of Collaborations <i>Introduction: 23.09.2021 Block Course: 27.10.2021 &amp; 28.10.2021 Final Presentation: 16.12.2021</i>			28s hrs	23.09. 27.10. 28.10. 16.12.	16-19 08-20 08-20 16-19	LFW B3 LFW B2 LFW B2 n/a	<b>C. G. C. Marxt</b>	
<b>363-1051-00L</b>	<b>Cases in Technology Marketing</b>	<b>W</b>	<b>3 credits</b>	<b>1G</b>					
	<i>Number of participants limited to 20.  Students have to apply for this course by sending a CV and an one-page motivation letter until 10.09.2021 to Theresa Schachner: tschachner@ethz.ch. Additionally please enroll via myStudies. Places will be assigned on the basis of your motivation letter.</i>								
363-1051-00 G	Cases in Technology Marketing <i>Permission from lecturers required for all students Block course 06.12.2021, whole day at Bühler Group in Uzwil</i>			16s hrs	20.09. 18.10. 08.11. 29.11. 06.12.	17-20 17-20 17-20 17-20 08-16	WEV F109 WEV F109 WEV F109 WEV F109 Ex tern	<b>F. von Wangenheim, S. Schär</b>	
<b>363-0393-00L</b>	<b>Corporate Strategy</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
	<i>Due to didactic considerations, the number of participants for this course is limited to 45.  Please register through myStudies to enroll for the course. Slots are assigned on a first-come first-serve basis (in the order of the registration date on myStudies). We will confirm your registration by e-mail. If you have any inquiries about the course, please contact the course assistant.</i>								
363-0393-00 V	Corporate Strategy <i>The lecture takes place online via livestreaming or zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	10-12	ML F39	<b>S. Ben-Menahem</b>	
<b>363-1065-00L</b>	<b>Design Thinking: Human-Centred Solutions to Real World Challenges</b>	<b>W</b>	<b>5 credits</b>	<b>5G</b>					
363-1065-00 G	Design Thinking: Human-Centred Solutions to Real World Challenges <i>Does not take place this semester. From FS22 in the spring semester.</i>			5 hrs				<b>S. Brusoni</b>	
<b>363-1028-00L</b>	<b>Entrepreneurial Leadership</b>	<b>W</b>	<b>4 credits</b>	<b>3S</b>					
	<i>Limited number of participants.</i>								

Students apply for this course via the official website no later than August 23 (<https://www.mtec.ethz.ch/studies/special-programmes/els.html>). Once your application is confirmed, registration in myStudies is possible.

363-1028-00 S	Entrepreneurial Leadership ■ Permission from lecturers required for all students Irregular lecture Additional classes: tba	45s hrs	Wed	10-13	WEV H326	<b>Z. Erden Özkol</b> , S. Brusoni, T. Netland, P. Tinguely
<b>363-0404-00L</b>	<b>Industry and Competitive Analysis</b> W Due to didactic reasons originating from the group-work based approach, the number of participants is limited to 30. First come first served by order of enrollment in myStudies.  Experience in statistical analysis with tools such as SPSS or equivalents is an advantage.	<b>3 credits</b>	<b>3G</b>			
363-0404-00 G	Industry and Competitive Analysis Permission from lecturers required for all students The lecture takes place online via zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.	3 hrs	Wed	14-16 16-17	LEE D101 LEE D101	<b>V. He</b> , Y. R. Shrestha
<b>363-0887-00L</b>	<b>Management Research</b> W Participation in both sessions and completion of all assignments is required to receive the credit. This course requires preparation time and completion of an assignment before the first course day. Please check the Moodle course page for more information.	<b>1 credit</b>	<b>1S</b>			
363-0887-00 S	Management Research ■ Block course  Online lecture: This lecture will primarily take place online. Reserved rooms will remain on campus for students to follow the course from there.	14s hrs	24.09. 08.10.	08-16 08-16	HG E33.1 HG E33.1	<b>N. Geilinger</b>

## ►► Supply Chain and Information Systems

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0425-00L</b>	<b>Transformation: Corporate Development and IT</b> W Number of participants limited to 30.	<b>3 credits</b>	<b>2G</b>					
363-0425-00 G	Transformation: Corporate Development and IT Irregular lecture The lecture starts at 12.30 - 18.00.  The lecture takes place online via Zoom (recorded).			30s hrs	27.09. 18.10. 01.11. 15.11. 29.11.	12-18 12-18 12-18 12-18 12-18	ON LINE ON LINE ON LINE ON LINE ON LINE	<b>T. Gutzwiller</b>
<b>363-1135-00L</b>	<b>Digital Health Project</b> W Number of participants limited to 30.	<b>3 credits</b>	<b>2V</b>					
363-1135-00 V	Digital Health Project Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Some sessions will be held from Singapore.			2 hrs	Thu	08-10	NO D11	<b>T. Kowatsch</b>
<b>363-0445-02L</b>	<b>Production and Operations Management – Supplement Credit</b> W A parallel enrolment to the lecture 363-0445-00L Production and Operations Management is mandatory.	<b>1 credit</b>	<b>1A</b>					
363-0445-02 A	Production and Operations Management – Supplement Credit Does not take place this semester. Irregular lecture			7s hrs				<b>T. Netland</b>

## ►► Systems Design and Risks

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-1162-00L</b>	<b>Resilience in the New Age of Risk</b> W Resilience in the New Age of Risk In classroom, online via livestreaming or zoom and recorded.	<b>3 credits</b>	<b>2V</b>					
363-1162-00 V				2 hrs	Mon	10-12	HG D3.2	<b>H. Schernberg</b> , C. Hölscher, J. Jörin, G. Sansavini

## ►► Economic Dynamics

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-1137-00L</b>	<b>Applied Econometrics in Environmental and Energy Economics</b> W It is highly recommended to take 363-0570-00L Principles of Econometrics first. Number of participants limited to 40.	<b>3 credits</b>	<b>2V</b>					

363-1137-00 V	Applied Econometrics in Environmental and Energy Economics	2 hrs	Mon 11.10.	08-10 08-10	HG E21 HG E19	<b>D. Cerruti, N. Kumar, S. Srinivasan</b>
<b>363-1136-00L</b>	<b>Dynamic Macroeconomics, Innovation and Growth</b> <i>Students who have successfully completed the course "Dynamic Macroeconomics" (364-0559-00L) or "Economics of Innovation and Growth" (363-0562-01L) can not register for this course.</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
363-1136-00 V	Dynamic Macroeconomics, Innovation and Growth <i>Please note: This lecture was merged from 364-0559-00L Dynamic Macroeconomics and 363-0562-01L Economics of Innovation and Growth. Contact person: Julia Dür, jduer@ethz.ch</i>		2 hrs	Tue	10-12	ZUE G1 <b>H. Gersbach</b>
<b>363-1160-00L</b>	<b>Economics by its Nobel Prizes</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
363-1160-00 V	Economics by its Nobel Prizes <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded</i>		2 hrs	Wed	14-16	CAB G59 <b>A. Fabre</b>
<b>363-1037-00L</b>	<b>Fiscal Competition and Multinational Firms</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
363-1037-00 V	Fiscal Competition and Multinational Firms		2 hrs	Thu	10-12	HG E21 <b>M. Köthenbürger, M. Stimmelmayer</b>
<b>363-1027-00L</b>	<b>Introduction to Health Economics and Policy</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>		
363-1027-00 V	Introduction to Health Economics and Policy <i>Does not take place this semester. Block course</i>		16s hrs			<b>C. Waibel</b>
<b>363-1161-00L</b>	<b>Time Series Econometrics and Macroeconomic Forecasting</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
363-1161-00 V	Time Series Econometrics and Macroeconomic Forecasting		2 hrs	Mon	10-12	HG D5.3 <b>S. Sarferaz</b>
<b>363-1124-00L</b>	<b>The Economics of Societal Decisions under Risk</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
363-1124-00 V	The Economics of Societal Decisions under Risk <i>Does not take place this semester.</i>		2 hrs			to be announced
<b>363-0585-00L</b>	<b>Intermediate Econometrics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
363-0585-00 V	Intermediate Econometrics		2 hrs	Tue	14-16	LEE C114 <b>G. Masllorens Fuentes</b>
<b>363-1159-00L</b>	<b>Labor Economics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
363-1159-00 V	Labor Economics <i>The lecture takes place in classroom, online via livestreaming or zoom, not recorded.</i>		2 hrs	Wed	10-12	CAB G59 <b>M. Siegenthaler, D. Kopp</b>
<b>363-1021-00L</b>	<b>Monetary Policy</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
363-1021-00 V	Monetary Policy		2 hrs	Mon	14-16	LEE E101 <b>J.-E. Sturm, A. Rathke</b>
<b>363-1139-00L</b>	<b>The Economics of Aging, Pensions and Savings</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
363-1139-00 V	The Economics of Aging, Pensions and Savings		2 hrs	Thu	16-18	HG E21 <b>C. Daminato</b>
<b>363-1047-00L</b>	<b>Urban Systems and Transportation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
363-1047-00 G	Urban Systems and Transportation <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>		2 hrs	Thu	10-12	LFW B1 <b>G. Loumeau</b>
<b>363-1107-00L</b>	<b>Youth Labor Market Outcomes, Institutions and Governance of Education and Training Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
363-1107-00 G	Youth Labor Market Outcomes, Institutions and Governance of Education and Training Systems <i>Block course The lecture takes place in classroom only (the course will take place if we have more than 4 participants).</i>		30s hrs	08.11. 09.11. 10.11. 11.11. 12.11.	09-16 09-16 09-16 09-16 09-16	LEE F118 LEE F118 LEE F118 LEE F118 LEE F118 <b>U. Renold, T. Bolli, P. McDonald</b>
<b>851-0735-09L</b>	<b>Workshop &amp; Lecture Series on the Law &amp; Economics of Innovation</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>		
851-0735-09 S	Workshop & Lecture Series on the Law & Economics of Innovation <i>**together with University of Zurich**</i>  <i>Unregelmässige Veranstaltung. Findet alternierende an der UZH und an der ETH statt.</i>		28s hrs	Tue Wed 22.09.	16-18 16-18 16-18	UNI ZH. IFW A32.1 ML E12 <b>S. Bechtold, H. Gersbach</b>

## ►► Human and Entrepreneurial Behaviour

Number	Title	Type	ECTS	Hours	Lecturers
<b>363-1044-00L</b>	<b>Applied Negotiation Seminar</b> <i>Number of participants limited to 30.</i>  <i>Prerequisites: Successful completion of lectures "363-1039-00L Introduction to Negotiation".</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>	

363-1044-00 S	Applied Negotiation Seminar ■ <i>Permission from lecturers required for all students</i> <i>Block course</i>	22s hrs	01.10.	09-17	HG E33.1 HG E33.3 HG E33.5 HG E33.1 HG E33.3 HG E33.5 HG E33.1 HG E33.3 HG E33.5 HG E33.1 HG E33.3 HG E33.5	<b>A. Knobel</b>
363-1082-00L	<b>Enabling Entrepreneurship: From Science to Startup</b> <i>Students should provide a brief overview (unto 1 page) of their business ideas that they would like to commercialise through the course. If they do not have an idea, they are required to provide a motivation letter stating why they would like to do this elective. If you are unsure about the readiness of your idea or technology to be converted into a startup, please drop me a line to schedule a call or meeting to discuss.</i>  <i>The total number of students will be limited to 40. It is preferable that the students already form teams of at least two persons, where both the team-members would like to do the course. The names of the team-members should be provided together with the business idea or the motivation letter submitted by the students.</i>  <i>The students should submit the necessary information until September 13 and apply to anilsethi@ethz.ch</i>	W	3 credits	2V		
363-1082-00 V	Enabling Entrepreneurship: From Science to Startup	2 hrs	Mon	16-18	HG E33.1	<b>A. Sethi</b>
376-1177-00L	<b>Human Factors I</b>	W	3 credits	2V		
376-1177-00 V	Human Factors I	2 hrs	Tue	14-16	HG G3	<b>M. Menozzi Jäckli, R. Huang, M. Siegrist</b>
363-1080-00L	<b>Power and Leadership</b>	W	3 credits	2S		
363-1080-00 S	Power and Leadership <i>Does not take place this semester. From FS22 in the spring semester.</i>	2 hrs				<b>P. Schmid</b>
363-0311-00L	<b>Psychological Aspects of Risk Management and Technology</b> <i>Number of participants limited to 65.</i>	W	3 credits	2V		
363-0311-00 V	Psychological Aspects of Risk Management and Technology	2 hrs	Wed	16-18	LFW B1	<b>G. Grote, N. Bienefeld-Seall, J. Schmutz, R. Schneider, M. Zumbühl</b>
363-1050-00L	<b>Simulation of Negotiations</b> <i>Limited number of participants.</i>  <i>Students who wish to register for this course have to apply no later than 18 September. Please send your application to Andreas Knobel: aknobel@ethz.ch, additionally register in mystudies (technical note for the registration: All registered students will initially be placed on a waiting list).</i>	W	3 credits	3V		
363-1050-00 V	Simulation of Negotiations ■ <i>Permission from lecturers required for all students</i> <i>Irregular lecture</i>  <i>Additional dates: 2./3.12.2021, University of Geneva</i>	36s hrs	Tue	10-12 05.10. 09-10 02.12. 10-17 03.12. 10-17	HG D22 HG D22 Ex tern Ex tern	<b>M. Ambühl, A. Knobel</b>
363-1050-01L	<b>Simulation of Negotiations (Exercises)</b>	W	1 credit	1U		
363-1050-01 U	Simulation of Negotiations (Exercises) ■ <i>Permission from lecturers required for all students</i>	8s hrs	12.10. 09.11.	13-17 08-12	LFW B2 LFW B2	<b>M. Ambühl, A. Knobel</b>
363-0790-00L	<b>Technology Entrepreneurship</b>	W	2 credits	2V		
363-0790-00 V	Technology Entrepreneurship <i>The lecture takes place online via (livestreaming or) zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	2 hrs	Tue	18-20	HG E5	<b>F. Hacklin</b>
363-0301-00L	<b>Work Design and Organizational Change</b>	W	3 credits	2G		
363-0301-00 G	Work Design and Organizational Change <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>	2 hrs	Tue	10-12	LFW C5	<b>G. Grote</b>

## ►► Natural Resources

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-1036-00L</b>	<b>Empirical Innovation Economics</b>	<b>W</b>	<b>3 credits</b>	<b>1G</b>				<b>M. Wörter</b>
363-1036-00 G	Empirical Innovation Economics			14s hrs	09.09.	10-13	RZ F21	
	<i>Block course</i>						RZ F21	
					10.09.	10-13	RZ F21	
					09.12.	10-13	RZ F21	
						14-16	LFW B2	
						14-17	LFW B2	
<b>363-1106-00L</b>	<b>The Economics of Climate Change</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				<b>A. Goussebaile</b>
363-1106-00 G	The Economics of Climate Change			2 hrs	Tue	10-12	ML F38	

## ►► Finance and Investment

Number	Title	Type	ECTS	Hours				Lecturers	
363-1081-00L	Asset Liability Management and Treasury Risks <i>Number of participants limited to 40.</i>	W	3 credits	2V					P. Mangold, M. Eichhorn
363-1081-00 V	Asset Liability Management and Treasury Risks <i>Block course</i>			28s hrs	24.09.	09-17	HG F26.1		
							HG F26.3		
					22.10.	09-17	HG E33.3		
					12.11.	09-17	HG E33.5		
					10.12.	09-17	HG E33.3		
							HG E33.5		
363-0723-00L	Corporate Finance	W	3 credits	2G					A. Kind
363-0723-00 G	Corporate Finance <i>Irregular course (s. room reservations)</i>			28s hrs	Sat/2	09-13	HG F3		
					20.11.	09-13	ON LINE		
	<i>The lecture will be recorded.</i>				27.11.	09-13	ON LINE		

## ►► Additional Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0881-00L</b>	<b>Semester Project Small</b>	<b>W</b>	<b>3 credits</b>	<b>6A</b>				Professors
363-0881-00 A	Semester Project Small ■			90s hrs	by appt.			
<b>363-0883-00L</b>	<b>Semester Project Large</b>	<b>W</b>	<b>6 credits</b>	<b>13A</b>				Professors
363-0883-00 A	Semester Project Large ■			180s hrs	by appt.			
<b>363-1042-00L</b>	<b>Strategic Career Development</b>	<b>Z</b>	<b>0 credits</b>	<b>1V</b>				<b>P. Cettier</b>
363-1042-00 V	Strategic Career Development			18s hrs	Wed	18-20	HG E33.3	
	<i>Irregular lecture</i>							

## ► Supplementary Courses

*The students have to deepen their knowledge in the area(s) of engineering/natural sciences in consultation with the responsible professor (tutor). Core courses and electives of D-MTEC can not be used as supplementary courses.*

*Course Catalogue of ETH Zurich*

## ► Industrial Internship

Number	Title	Type	ECTS	Hours	Lecturers
363-0879-00L	Practical Training	O	6 credits		
363-0879-00 P	Practical Training (10 weeks) ■ According to MTEC guidelines				external organisers

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
363-0600-00L	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme;</i> <i>c. internship fulfilled;</i> <i>d. academic writing course has been completed.</i>	O	30 credits	57D	Professors
363-0600-00 D	Master's Thesis ■			800s hrs by appt.	
363-1063-00L	<b>Academic Writing Course</b> <i>Compulsory for all MTEC MSc students. Attendance of the initial lecture is compulsory. Students who are unavailable at the time of the initial lecture need to take the course in another semester.</i>	O	0 credits	1G	

*The initial lecture, including the placement test, is mandatory. It takes place on 24 September 2021.  
 Irregular lecture. The time of the lessons is 8.30-11.45.*

#### Management, Technology and Economics Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# MAS in Applied Technology

## ► Major in Applied Information Technology

Number	Title	Type	ECTS	Hours	Lecturers		
<b>265-0100-00L</b>	<b>Foundations of Programming</b> <i>Only for CAS in Applied Information Technology and MAS in Applied Technology.</i>	<b>O</b>	<b>3 credits</b>	<b>2A</b>			
265-0100-00 A	Foundations of Programming			32s hrs	<b>L. E. Fässler</b>		
<b>265-0101-00L</b>	<b>Data Science</b> <i>Only for CAS in Applied Information Technology and MAS in Applied Technology.</i>	<b>O</b>	<b>3 credits</b>	<b>3V</b>			
265-0101-00 V	Data Science <i>Block course</i>			36s hrs	01.10. 08-18 02.10. 08-12 15.10. 08-18 16.10. 08-12	HG D7.2 HG D7.2 HG D7.2 HG D7.2	<b>B. Gärtner</b>
<b>265-0102-00L</b>	<b>Humans &amp; Machines</b> <i>Only for CAS in Applied Information Technology and MAS in Applied Technology.</i>	<b>O</b>	<b>3 credits</b>	<b>2V</b>			
265-0102-00 V	Humans & Machines <i>Block course</i>			30s hrs	29.10. 08-18 30.10. 08-12 12.11. 08-18	HG E33.3 HG E1.1 HG D7.2	<b>E. Konukoglu</b>
<b>265-0103-00L</b>	<b>Applied Information Technology</b> <i>Only for CAS in Applied Information Technology and MAS in Applied Technology.</i>	<b>O</b>	<b>3 credits</b>	<b>3V</b>			
265-0103-00 V	Applied Information Technology <i>Block course</i>			42s hrs	17.09. 08-18 18.09. 08-12 26.11. 08-18 27.11. 08-12	HG D1.1 HG D1.1 LEE E101 LEE E101	<b>M. Brandis</b>

## ► Major in Applied Manufacturing Technology

*Offered only in the Spring Semester.*

## ► Major in Applied Technology in Energy

*Offered only in the Spring Semester.*

## ► Major in CAS in Applied Technology: R&D and Innovation

Number	Title	Type	ECTS	Hours	Lecturers		
<b>247-0200-00L</b>	<b>Organization of R&amp;D in Tech Companies</b> <i>Only for CAS in Applied Technology: R&amp;D and Innovation and MAS in Applied Technology.</i>	<b>O</b>	<b>4 credits</b>	<b>2G</b>			
247-0200-00 G	Organization of R&D in Tech Companies <i>Block course on Fridays 9:00 - 18:00, Saturdays 9:00 - 13:00</i>			24s hrs	17.09. 09-18 18.09. 09-13 15.10. 09-18 16.10. 09-13 26.11. 09-18 27.11. 08-12	HG E22 HG E22 HG E23 HG E23 HG E33.1 ETZ E81	<b>U. Grossner</b>
<b>247-0201-00L</b>	<b>Innovation Opportunity Analysis</b> <i>Only for CAS in Applied Technology: R&amp;D and Innovation and MAS in Applied Technology.</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>			
247-0201-00 G	Innovation Opportunity Analysis <i>Block course on Fridays 9:00 - 18:00, Saturdays 9:00 - 13:00</i>			36s hrs	01.10. 09-18 02.10. 09-13 29.10. 09-18 30.10. 09-13 12.11. 09-18 13.11. 09-13 10.12. 08-17	HG E23 HG E23 HG E33.1 HG E33.1 HG F26.3 HG F26.3 HG D1.1	<b>J. Jaminet</b>
<b>247-0202-00L</b>	<b>Innovation and Technology Tools</b> <i>Only for CAS in Applied Technology: R&amp;D and Innovation and MAS in Applied Technology.</i>	<b>O</b>	<b>2 credits</b>	<b>4G</b>			
247-0202-00 G	Innovation and Technology Tools <i>Online Module</i>			50s hrs	<b>U. Grossner, J. Jaminet</b>		
<b>247-0203-00L</b>	<b>Experiment Selection &amp; Design</b> <i>Only for CAS in Applied Technology: R&amp;D and Innovation and MAS in Applied Technology.</i>	<b>O</b>	<b>0 credits</b>				
247-0203-00 U	Experiment Selection & Design <i>By appointment</i>			4s hrs	<b>U. Grossner</b>		

## ► Experimental Project

Number	Title	Type	ECTS	Hours	Lecturers		
<b>247-0550-00L</b>	<b>Project</b> <i>Only for MAS in Applied Technology.</i>	<b>O</b>	<b>10 credits</b>	<b>18A</b>			
247-0550-00 A	Project			250s hrs	<b>U. Grossner</b>		

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
247-0500-00L	<b>Master's Thesis</b> <i>Only for MAS in Applied Technology.</i>	O	10 credits	21D	
247-0500-00 D	Master's Thesis			300s hrs	Professors

### MAS in Applied Technology - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.



## MAS in Architecture and Digital Fabrication

*The MAS Digital Fabrication is a 1 year full-time programme and is structured as a series of teaching modules with an independent master thesis. Lessons within the modules are given in the form of lectures, practical workshops, and projects as the main modus for developing skills. Learning will be supported through one on one mentoring in studio, group critiques, symposia, and excursions.*

### ► Module

Number	Title	Type	ECTS	Hours					Lecturers
<b>069-0001-00L</b>	<b>Digital Foundations</b> <i>Only for MAS in Architecture and Digital Fabrication.</i>	<b>O</b>	<b>20 credits</b>	<b>2G</b>					
069-0001-00 G	Digital Foundations <i>No course on 28.10. (seminar week)</i>			24s hrs	Thu	08-10	HIB D11		<b>B. Dillenburger,</b> P. Aejmelaesus-Lindström

### MAS in Architecture and Digital Fabrication - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# MAS in Architecture, Real Estate, Construction

## ► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>072-0001-00L</b>	<b>Construction Industry and Real Estate Market</b> <i>Only for MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>3 credits</b>	<b>7G</b>	
072-0001-00 G	Bauwirtschaft und Immobilienmarkt <i>Does not take place this semester.</i> <i>Lehrbereich: Inhalte 1</i>			100s hrs	
<b>072-0003-00L</b>	<b>Methodology</b> <i>Only for MAS in Architecture, Real Estate, Construction.</i>	<b>O</b>	<b>1 credit</b>	<b>2G</b>	
072-0003-00 G	Methodenkompetenz <i>Lehrbereich: Inhalte 3</i>			30s hrs   Fri   16-17   HIB E33	<b>A. Paulus</b>

## ► Major in Digitalisation

### ►► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>072-0101-00L</b>	<b>Module 1: Foundations of Digitalisation</b> <i>Only for CAS ARC in Digital and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0101-00 G	Modul 1: Grundlagen der Digitalisierung <i>Kursraum HIB E33.</i>			25s hrs   by appt.	<b>A. Paulus</b>
<b>072-0102-00L</b>	<b>Module 2: Behaviour for Collaboration Foundation</b> <i>Only for CAS ARC in Digital and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0102-00 G	Modul 2: Zusammenarbeit <i>Kursraum: HIB E33.</i>			25s hrs   by appt.	<b>A. Paulus</b>
<b>072-0103-00L</b>	<b>Module 3: Foundation of Automation</b> <i>Only for CAS ARC in Digital and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0103-00 G	Modul 3: Automation, IoT & AI <i>Kursraum HIB E33.</i>			25s hrs   by appt.	<b>A. Paulus</b>
<b>072-0104-00L</b>	<b>Module 4: Foundation of Value Creation</b> <i>Only for CAS ARC in Digital and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0104-00 G	Modul 4: Wertschöpfung <i>Kursraum: HIB E33.</i>			25s hrs   by appt.	<b>A. Paulus</b>
<b>072-0105-00L</b>	<b>Module 5: New Business Modelle</b> <i>Only for CAS ARC in Digital and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0105-00 G	Modul 5: Geschäftsmodelle <i>Kursraum: HIB E33.</i>			25s hrs   by appt.	<b>A. Paulus</b>

### ►► Term Paper

*The Term Paper is offered in spring semesters only.*

## ► Major in Project

### ►► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>072-0201-00L</b>	<b>Module 1: Understanding of Roles</b> <i>Only for CAS ARC in Project and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0201-00 G	Modul 1: Rollenverständnis <i>Kursraum: HIB E 33.</i>			25s hrs   by appt.	<b>A. Paulus</b>
<b>072-0202-00L</b>	<b>Module 2: Collaboration</b> <i>Only for CAS ARC in Project and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0202-00 G	Modul 2: Zusammenarbeit <i>Kursraum: HIB E 33.</i>			25s hrs   by appt.	<b>A. Paulus</b>
<b>072-0203-00L</b>	<b>Module 3: Services and tasks</b> <i>Only for CAS ARC in Project and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0203-00 G	Modul 3: Leistungen <i>Kursraum: HIB E 33.</i>			25s hrs   by appt.	<b>A. Paulus</b>
<b>072-0204-00L</b>	<b>Module 4: Guiding/Steering/Leading</b> <i>Only for CAS ARC in Project and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0204-00 G	Modul 4: Leiten/Lenken/Führen <i>Kursraum: HIB E 33.</i>			25s hrs   by appt.	<b>A. Paulus</b>
<b>072-0205-00L</b>	<b>Module 5: Project</b> <i>Only for CAS ARC in Project and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	

## ►► Term Paper

*The Term Paper is offered in spring semesters only.*

## ► Major in Real Estate Strategies urban-peri-urban

### ►► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>072-0301-00L</b>	<b>Module 1: Perception of Demand</b> <i>Only for CAS ARC in Real Estate Strategies urban-peri-urban and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0301-00 G	Modul 1: Aufgabenverständnis <i>Does not take place this semester. Kursraum: HIB E33</i>			25s hrs	
<b>072-0302-00L</b>	<b>Module 2: State of the Art</b> <i>Only for CAS ARC in Real Estate Strategies urban-peri-urban and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0302-00 G	Modul 2: Stand der Dinge <i>Does not take place this semester. Kursraum: HIB E33</i>			25s hrs	
<b>072-0303-00L</b>	<b>Module 3: Economic Interest</b> <i>Only for CAS ARC in Real Estate Strategies urban-peri-urban and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0303-00 G	Modul 3: Ökonomie <i>Does not take place this semester. Kursraum: HIB E33.</i>			25s hrs	
<b>072-0304-00L</b>	<b>Module 4: Course of Action</b> <i>Only for CAS ARC in Real Estate Strategies urban-peri-urban and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0304-00 G	Modul 4: Handlungsoptionen <i>Does not take place this semester. Kursraum: HIB E33</i>			25s hrs	
<b>072-0305-00L</b>	<b>Module 5: Life Cycle and Resources</b> <i>Only for CAS ARC in Real Estate Strategies urban-peri-urban and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0305-00 G	Modul 5: Lebenszyklus und Ressourcen <i>Does not take place this semester. Kursraum: HIB E33.</i>			25s hrs	

## ►► Term Paper

*The Term Paper is offered in spring semesters only.*

## ► Major in Company Management

### ►► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>072-0401-00L</b>	<b>Module 1: Market</b> <i>Only for CAS ARC in Unternehmensführung and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0401-00 G	Modul 1: Markt <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0402-00L</b>	<b>Module 2: Acquisition</b> <i>Only for CAS ARC in Unternehmensführung and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0402-00 G	Modul 2: Akquisition <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0403-00L</b>	<b>Module 3: Marketing</b> <i>Only for CAS ARC in Unternehmensführung and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0403-00 G	Modul 3: Marketing <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0404-00L</b>	<b>Module 4: Financial Management</b> <i>Only for CAS ARC in Unternehmensführung and MAS in Architecture, Real Estate, Construction.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	
072-0404-00 G	Modul 4: Finanzielle Führung <i>Kursraum: HIB E 33.</i>			25s hrs by appt.	<b>A. Paulus</b>
<b>072-0405-00L</b>	<b>Module 5: Digitalisation</b> <i>Only for CAS ARC in Unternehmensführung and MAS in</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>	

**►► Term Paper***The Term Paper is offered in spring semesters only.***MAS in Architecture, Real Estate, Construction - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

## MAS in Development and Cooperation

The lectures and advanced training courses of NADEL are accessible only for students of the MAS in Development and Cooperation and for qualified employees with at least two years experience in development cooperation and a Master's level or equivalent level of education as recognized by ETH. PhD students doing empirical research in development cooperation may be admitted "sur Dossier".

### ► Advanced Training Courses

Number	Title	Type	ECTS	Hours	Lecturers
865-0065-00L	<b>VET between Poverty Alleviation and Economic Development</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation.</i>  <i>ETH doctoral students working on topics related to poverty reduction in low- and middle income countries may also be admitted.</i>  <i>Registration only through the NADEL administration office.</i>	W	2 credits	3G	
865-0065-00 G	VET between Poverty Alleviation and Economic Development Block course from 13.09. – 17.09.2021 Location: CLD A1			40s hrs	K. Harttgen, F. Kehl, M. Maurer
865-0000-06L	<b>Impact Evaluations in Practice</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation.</i>  <i>ETH doctoral students working on topics related to poverty reduction in low- and middle income countries may also be admitted.</i>  <i>Registration only through the NADEL administration office.</i>	W	2 credits	3G	
865-0000-06 G	Impact Evaluations in Practice Block course from 04.10. – 08.10.2021 Location: CLD A1			40s hrs	I. Günther, A. Rom, K. Schneider
865-0042-00L	<b>Financial Management of Projects</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation.</i>  <i>ETH doctoral students working on topics related to poverty reduction in low- and middle income countries may also be admitted.</i>  <i>Registration only through the NADEL administration office.</i>	W	2 credits	2G	
865-0042-00 G	Finanzmanagement von Projekten Block course from 26.10. – 29.10.2021 Location: CLD A1			32s hrs	I. Günther, M. Störmer
865-0064-00L	<b>Decolonizing Aid</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation. Doctoral students dealing with empirical research in the area of development and cooperation (EZA) may be admitted "sur Dossier".</i>  <i>Registration only through the NADEL administration office.</i>	W	2 credits	3G	
865-0064-00 G	Decolonizing Aid Block course from 01.11. - 05.11.2021 Location: CLD A1			40s hrs	K. Schneider, L. Hensgen
865-0070-00L	<b>The Private Sector and Development Organizations: Building Successful Alliances</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation. Doctoral students dealing with empirical research in the area of development and cooperation (EZA) may be admitted "sur Dossier".</i>  <i>Registration only through the NADEL</i>	W	1 credit	2G	

<b>administration office.</b>					
865-0070-00	G	The Private Sector and Development Organizations: Building Successful Alliances <i>Block course from 15.11. – 17.11.2021</i> <i>Location: CLD A1</i>	24s	hrs	F. Brugger
<b>865-0021-00L</b>		<b>Fraud and Corruption: Prevent, Detect, Investigate, Sanction</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation.</i>  <i>ETH doctoral students working on topics related to poverty reduction in low- and middle income countries may also be admitted.</i>  <i>Registration only through the NADEL administration office.</i>	<b>W</b>	<b>1 credit</b>	<b>2G</b>
865-0021-00	G	Fraud and Corruption: Prevent, Detect, Investigate, Sanction <i>Block course from 06.12. – 08.12.2021</i> <i>Location: CLD A1</i>	24s	hrs	L. Hensgen, M. Schmid-Huberty
<b>865-0006-00L</b>		<b>Leveraging Private Impact Investors in Development Cooperation</b> <i>Only for MAS/CAS in Development and Cooperation students, as well as specialists with at least 24 months of practical experience in international cooperation. Doctoral students dealing with empirical research in the area of development and cooperation (EZA) may be admitted "sur Dossier".</i>  <i>Registration only through the NADEL administration office.</i>	<b>W</b>	<b>1 credit</b>	<b>1G</b>
865-0006-00	G	Leveraging Private Impact Investors in Development Cooperation <i>Block course</i> <i>Location: CLD A1</i>	16s	hrs	C. Humphrey

## ► Study Semester

### ►► Compulsory Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>865-0001-00L</b>	<b>Cultural and Social Aspects of Development</b> <i>Only for MAS in Development and Cooperation.</i>	<b>O</b>	<b>3 credits</b>	<b>3G</b>	
865-0001-00	G Kulturelle und soziale Aspekte der Entwicklung <i>Does not take place this semester.</i> <i>Termine n.V.</i> <i>Ort: CLD</i>			40s	hrs
<b>865-0003-00L</b>	<b>Development Economics</b> <i>Only for MAS in Development and Cooperation.</i>	<b>O</b>	<b>3 credits</b>	<b>3G</b>	
865-0003-00	G Entwicklungsökonomie <i>Does not take place this semester.</i> <i>Termine n.V.</i> <i>Ort: CLD</i>			40s	hrs
<b>865-0007-00L</b>	<b>History and Forms of International Development Cooperation</b> <i>Only for MAS in Development and Cooperation.</i>	<b>O</b>	<b>3 credits</b>	<b>3G</b>	
865-0007-00	G Geschichte und Formen der IZA <i>Does not take place this semester.</i> <i>Termine n.V.</i> <i>Ort: CLD</i>			40s	hrs
<b>865-0010-00L</b>	<b>Politics and Governance</b> <i>Only for MAS in Development and Cooperation.</i>	<b>O</b>	<b>2 credits</b>	<b>2G</b>	
865-0010-00	G Politik und Gouvernanz <i>Does not take place this semester.</i> <i>Termine n.V.</i> <i>Ort: CLD</i>			24s	hrs
<b>865-0010-01L</b>	<b>Environment and Natural Resources</b> <i>Only for MAS in Development and Cooperation.</i>	<b>O</b>	<b>3 credits</b>	<b>3G</b>	
865-0010-01	G Environment and Natural Resources <i>Does not take place this semester.</i> <i>Termine n.V.</i> <i>Ort: CLD</i>			40s	hrs

### ►► Electives

Number	Title	Type	ECTS	Hours	Lecturers
<b>865-0010-02L</b>	<b>Food Security and Agriculture</b> <i>Only for MAS in Development and Cooperation.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
865-0010-02 G	Food Security and Agriculture <i>Does not take place this semester.</i> <i>Termine n.V.</i> <i>Ort: CLD</i>			24s hrs	
<b>865-0011-01L</b>	<b>Sanitation and Water Supply in Development</b> <i>Only for MAS in Development and Cooperation.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
865-0011-01 G	Siedlungshygiene und Wasserversorgung <i>Does not take place this semester.</i> <i>Termine n.V.</i> <i>Ort: CLD</i>			24s hrs	<b>I. Günther</b>
<b>865-0068-00L</b>	<b>Justice and Normative Aspects of Development</b> <i>Only for MAS in Development and Cooperation.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
865-0068-00 G	Gerechtigkeit und normative Aspekte der Entwicklung <i>Does not take place this semester.</i> <i>Termine n.V.</i> <i>Ort: CLD</i>			24s hrs	
<b>865-0069-00L</b>	<b>Health and Development - Health Related Aspects of International Development Aid</b> <i>Only for MAS in Development and Cooperation.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
865-0069-00 G	Gesundheit und Entwicklung - Gesundheitsaspekte in der internationalen Zusammenarbeit <i>Does not take place this semester.</i> <i>Termine n.V.</i> <i>Ort: CLD</i>			24s hrs	
<b>865-0008-00L</b>	<b>Policy Evaluation and Applied Statistics</b> <i>Only for MAS in Development and Cooperation and Science, Technology, and Policy MSc.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>	
865-0008-00 G	Policy Evaluation and Applied Statistics <i>Does not take place this semester.</i> <i>Termine n.V.</i> <i>Ort: CLD</i>			40s hrs	<b>I. Günther</b>

### ► Semester Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>865-0700-00L</b>	<b>Semester Thesis</b> <i>Only for MAS in Development and Cooperation.</i>	<b>O</b>	<b>4 credits</b>	<b>9A</b>	
865-0700-00 A	Semesterarbeit <i>Does not take place this semester.</i>			120s hrs	Lecturers

### MAS in Development and Cooperation - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# MAS in Nutrition and Health

## ► Disciplinary Subjects

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				<b>M. Puhan, R. Heusser</b>
752-6105-00 V	Epidemiology and Prevention			2 hrs	Wed	12-14	CHN C14	
<b>752-2307-00L</b>	<b>Nutritional Aspects of Food Composition and Processing</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				<b>B. E. Baumer, J. M. Sych</b>
752-2307-00 V	Nutritional Aspects of Food Composition and Processing			2 hrs	Wed	08-10	LFW C5	
<b>752-6301-00L</b>	<b>Selected Topics in Physiology Related to Nutrition</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				<b>F. von Meyenn</b>
752-6301-00 V	Selected Topics in Physiology Related to Nutrition			2 hrs	Thu	10-12	CAB G51	
<b>766-6205-00L</b>	<b>Nutrient Analysis in Foods</b>	<b>W+</b>	<b>3 credits</b>	<b>3U</b>				<b>J. Rigutto</b>
	<i>Number of participants limited to 15. Permission from lecturers required for all students.</i>							
766-6205-00 U	Nutrient Analysis in Foods ■ <i>Permission from lecturers required for all students Block course from 31.01.2022 to 09.02.2022. The course starts at 9:00 am on 31.01.2021 in the Laboratory of Human Nutrition LFW D-floor laboratories, This course also includes a half-day cooking preparation in mid-December 2021, lectures via Moodle, oral presentations that take place on 18.02.2022 in the afternoon and a written report to be submitted by 25.02.2022. The detailed program will be announced separately.</i>			45s hrs	31.01.-09.02.	08-17	LFV E41	
<b>752-6101-00L</b>	<b>Dietary Etiologies of Chronic Disease</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				<b>M. B. Zimmermann</b>
752-6101-00 V	Dietary Etiologies of Chronic Disease			2 hrs	Thu	08-10	CAB G11	
<b>752-6403-00L</b>	<b>Nutrition and Performance</b>	<b>W+</b>	<b>2 credits</b>	<b>2V</b>				<b>S. Mettler, M. B. Zimmermann</b>
752-6403-00 V	Nutrition and Performance			2 hrs	Thu	14-16	ML E12	
<b>766-6304-00L</b>	<b>Introduction to the Nutrition Research Process</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				<b>J. Rigutto</b>
766-6304-00 G	Introduction to the Nutrition Research Process <i>Until autumn 2020 semester: Theory and Practice of Nutritional Science.</i>			2 hrs	Wed	10-12	LFO C13	

## ► Electives

Number	Title	Type	ECTS	Hours				Lecturers	
752-2122-00L	Food and Consumer Behaviour	W	2 credits	2V					M. Siegrist, C. Hartmann
752-2122-00 V	Food and Consumer Behaviour <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	10-12	LFW B1		
752-0801-00L	Food Law and Legislation	W	1 credit	1V					C. Spinner, E. Zbinden Kaessner
752-0801-00 V	Lebensmittelrecht			1 hrs	Fri/2w	10-12	LFW C4		
752-5103-00L	Functional Microorganisms in Foods	W	3 credits	2G					C. Lacroix, A. Geirnaert, A. Greppi
752-5103-00 G	Functional Microorganisms in Foods ■ <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG D7.1		
752-5111-00L	Gene Technology in Foods	W	3 credits	2V					F. Constancias, G. Broggini, A. Greppi, F. Orelli
752-5111-00 V	Gene Technology in Foods <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	16-18	LFV E41		
551-0317-00L	Immunology I	W	3 credits	2V					M. Kopf, A. Oxenius
551-0317-00 V	Immunology I			2 hrs	Tue	08-10	HG G3		
752-6151-00L	Public Health Concepts	W+	3 credits	2V					R. Heusser
752-6151-00 V	Public Health Concepts			2 hrs	Mon 27.09.	14-16 14-16	HG D1.1 CHN G42		
376-0300-00L	Translational Science for Health and Medicine	W	3 credits	2G					J. Goldhahn, C. Wolfrum
376-0300-00 G	Translational Science for Health and Medicine ■			2 hrs	Fri	10-12	IFW A36		
376-0225-00L	Physical Activities and Health	W	3 credits	2V					R. Knols, E. de Bruin, further speakers
376-0225-00 V	Physical Activities and Health			2 hrs	Fri	14-16	HIL E6		

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
766-6500-00L	MAS Master's Thesis <i>Only for MAS in Nutrition and Health.</i>	O	20 credits	43D	Lecturers
766-6500-00 D	Master-Arbeit			600s hrs by appt.	



**MAS in Nutrition and Health - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■          Special students and auditors need special permission from the lecturers.

# MAS in Fire Safety Engineering

Four-semester, part-time MAS programme, starting in autumn semester (even years).

Next start: Autumn Semester 2022

## ► Module

Number	Title	Type	ECTS	Hours	Lecturers
<b>121-0100-00L</b>	<b>Module 1: Fire Science</b> <i>Only for MAS ETH in Fire Safety Engineering.</i>	<b>O</b>	<b>10 credits</b>	<b>9G</b>	
121-0100-00 G	Modul 1: Physikalische und chemische Grundlagen für den Lastfall Brand <i>Does not take place this semester. Blockkurs</i>			120s hrs	<b>A. Frangi</b>
<b>121-0110-00L</b>	<b>Module 2: Fire Safety Design</b> <i>Only for MAS ETH in Fire Safety Engineering.</i>	<b>O</b>	<b>10 credits</b>	<b>9G</b>	
121-0110-00 G	Modul 2: Grundlagen Nachweisführung im Brandschutz <i>Does not take place this semester. Blockkurs</i>			120s hrs	<b>A. Frangi</b>
<b>121-0140-00L</b>	<b>Module 5: Technical Fire Safety</b> <i>Only for MAS ETH in Fire Safety Engineering.</i>	<b>O</b>	<b>6 credits</b>	<b>5G</b>	
121-0140-00 G	Modul 5: Technischer Brandschutz <i>Blockkurs: 13.09.2021 - 24.09.2021</i>			75s hrs	13.09.- 08-18 HCP E47.2 17.09. 20.09.- 08-18 HIT F13 24.09.
					<b>A. Frangi</b>

## MAS in Fire Safety Engineering - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# MAS in Building Process Leadership

The MAS in "Gesamtprojektleitung Bau" is of a duration of 2 years, starting in autumn semester (n-service).

Start of the next course: Autumn Semester 2021

## ► Module

Number	Title	Type	ECTS	Hours	Lecturers			
<b>067-0101-00L</b>	<b>Involved Parties</b> <i>Only for MAS in Building Process Leadership.</i>	<b>O</b>	<b>10 credits</b>	<b>21G</b>				
067-0101-00 G	Beteiligte <i>Lehrbereich: Inhalte 1</i>			300s hrs	Fri Sat	08-18 08-12	HIT F31.1 HIL D60.1	<b>A. Paulus</b>
<b>067-0103-00L</b>	<b>Interests</b> <i>Only for MAS in Building Process Leadership.</i>	<b>O</b>	<b>10 credits</b>	<b>11G</b>				
067-0103-00 G	Interessen <i>Does not take place this semester. Lehrbereich: Inhalte 3</i>			150s hrs				

### MAS in Building Process Leadership - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# MAS in History and Theory of Architecture (GTA)

The MAS-programm in "History and Theory of Architecture" is a two-year half-time course and contains 60 CP. The course starts in the autumn semester.

Attendance of classes supplemented by independent research; practical training periods and excursions; lectures/seminars on one to two days per week, in total 600 ca. contact hours, in addition private study ca. 600 hours (for each in-class day one day of work preparation), two individually tutored seminar papers on chosen subjects (200 hours) and credited Master's thesis (600 hours).

## ► 1. Semester

### ►► Lectures, Seminars

Number	Title	Type	ECTS	Hours	Lecturers
<b>056-0001-01L</b>	<b>Architecture and the City I</b> <i>Only for MAS in History and Theory of Architecture.</i>	<b>O</b>	<b>4 credits</b>	<b>4S</b>	
056-0001-01 S	Architektur und Stadt I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche), am 17./24.12. (Individuelles Arbeiten).</i>			4 hrs    Fri    14-18    HIT H42	<b>S. Schindler Kilian,</b> A. J. Bideau

### ►► Workshop

Number	Title	Type	ECTS	Hours	Lecturers
<b>056-0005-01L</b>	<b>Methods of Academic Writing I</b> <i>Only for MAS in History and Theory of Architecture.</i>	<b>O</b>	<b>1 credit</b>	<b>3U</b>	
056-0005-01 U	Methoden des wissenschaftlichen Schreibens I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche).</i>			3 hrs    Fri    10-13    HIL D60.1	<b>S. Schindler Kilian, M.-</b> A. Lerjen

### ►► Essays

Number	Title	Type	ECTS	Hours	Lecturers
<b>056-0201-01L</b>	<b>Scientific Home Work (1)</b> <i>Only for MAS in History and Theory of Architecture.</i>	<b>O</b>	<b>4 credits</b>		
056-0201-01 A	Wissenschaftliche Hausarbeit (1)			5s hrs	<b>S. Schindler Kilian,</b> M. Delbeke

## ► 3. Semester

### ►► Lectures, Seminars

Number	Title	Type	ECTS	Hours	Lecturers
<b>056-0003-01L</b>	<b>Architecture and the City III</b> <i>Only for MAS in History and Theory of Architecture.</i>	<b>O</b>	<b>4 credits</b>	<b>4S</b>	
056-0003-01 S	Architektur und Stadt III <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche), am 17./24.12. (Individuelles Arbeiten).</i>			4 hrs    Fri    14-18    HIT H42	<b>S. Schindler Kilian,</b> A. J. Bideau
<b>056-0009-01L</b>	<b>Architecture and the City V</b> <i>Enrollment only on agreement with the lecturer.</i>	<b>W</b>	<b>4 credits</b>	<b>9S</b>	
056-0009-01 S	Architektur und Stadt V <i>Permission from lecturers required for all students</i>			120s hrs    by appt.	<b>S. Schindler Kilian</b>

### ►► Workshop

Number	Title	Type	ECTS	Hours	Lecturers
<b>056-0007-01L</b>	<b>Research Methods in the History and Theory of Architecture I</b> <i>Nur für MAS Studierende in Geschichte und Theorie der Architektur.</i>	<b>O</b>	<b>1 credit</b>	<b>3U</b>	
056-0007-01 U	Research Methods in the History and Theory of Architecture I <i>No course on 28.10. (seminar week).</i>			3 hrs    Thu    14-16    HCI F2	<b>C. Rachele</b>

### ►► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>056-0210-01L</b>	<b>MAS Thesis Preparation</b> <i>Only for MAS in History and Theory of Architecture.</i>	<b>O</b>	<b>5 credits</b>	<b>9A</b>	
056-0210-01 A	MAS-Arbeit Vorbereitung			130s hrs	<b>S. Schindler Kilian,</b> M. Delbeke

### MAS in History and Theory of Architecture (GTA) - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# MAS in Housing

1 year full time course in English, starting every autumn semester.  
Further information on [www.wohnforum.arch.ethz.ch](http://www.wohnforum.arch.ethz.ch)

Lectures, workshops, individual and group tutorials and excursions organized in the framework of the four modules: Cultural, socio-economic, demographic and political aspects of housing and human settlements (M1); Adequate housing and neighbourhood development strategies (M2); Housing for migrants, refugees, and people displaced by disasters (M3); Housing research and evaluation methods (M4).

Introduction to the MAS Housing: Room HIT H 13 (Date and Time will follow in due time).  
Presentation of MAS Thesis Proposals: Room HIT H 13 (Date and time will follow in due time).

## ► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers		
<b>057-0103-10L</b>	<b>Module 1: Global Housing Issues, Challenges and Strategies</b> <i>Only for MAS in Housing</i>	<b>O</b>	<b>4 credits</b>	<b>2G</b>			
057-0103-10 G	Module 1: Global Housing Issues, Challenges and Strategies <i>No course on 28.10. (seminar week).</i>			2 hrs	Thu 23.09. 30.09.	10-12 17-19 17-19	HIT H22.1 HIL C10.2 HIL C10.2 <b>J. E. Duyne Barenstein</b>
<b>057-0104-10L</b>	<b>Module 2: Innovative Housing: Case Studies and Exercises</b> <i>Only for MAS in Housing</i>	<b>O</b>	<b>4 credits</b>	<b>2G</b>			
057-0104-10 G	Module 2: Innovative Housing: Case Studies and Exercises <i>No course on 28.10. (seminar week).</i>			2 hrs	Thu	14-16	HIT H22.1 <b>J. E. Duyne Barenstein</b>
<b>057-0101-10L</b>	<b>Module 3: Housing Research Methods</b> <i>Only for MAS in Housing.</i>	<b>O</b>	<b>10 credits</b>	<b>2G</b>			
057-0101-10 G	Module 3: Housing Research Methods <i>Keine Lehrveranstaltung am 25.10. (Seminarwoche).</i>			2 hrs	Mon	14-16	HIT H22.1 <b>J. E. Duyne Barenstein</b>
<b>057-0102-10L</b>	<b>Module 4: Writing and Communication Skills for Built Environment Professionals</b> <i>Only for MAS in Housing</i>	<b>O</b>	<b>10 credits</b>	<b>2K</b>			
057-0102-10 K	Module 4: Writing and Communication Skills for Built Environment Professionals <i>Introduction to MAS Housing: 20.09.21 HIT H 22.1. Presentation of MAS thesis proposals: 13. and 20.12.21 No course on 25.10. (seminar week).</i>			2 hrs	Mon	10-12	HIT H22.1 <b>J. E. Duyne Barenstein</b>

## ► Elective Courses

At least 3 elective courses for a total of 6 ECTS have to be followed by the MAS students. These can be selected from the courses offered by the Department of Architecture or from other ETH departments.

### MAS in Housing - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# MAS in Management, Technology, and Economics

MAS MTEC Introductory Event for 1st Semester Students.  
Monday, 20.09.2021, 16.00 - 17.15 h, HG E 1.2 (tbc)

## ► 1. Semester

### ►► Core Courses

#### ►►► General Management and Human Resource Management

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0341-00L</b>	<b>Introduction to Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				<b>Z. Zagorac-Uremovic,</b> J. O'Neil
363-0341-00 G	Introduction to Management <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	16-18	HG F7	
<b>363-0301-00L</b>	<b>Work Design and Organizational Change</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				<b>G. Grote</b>
363-0301-00 G	Work Design and Organizational Change <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Tue	10-12	LFW C5	

#### ►►► Strategy, Markets and Technology

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0403-00L</b>	<b>Introduction to Marketing</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				<b>S. Brüggemann,</b> F. von Wangenheim
363-0403-00 G	Introduction to Marketing <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Tue	14-16	HG E5	

#### ►►► Information and Operations Management

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0421-00L</b>	<b>Mastering Digital Business Models</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				<b>E. Fleisch</b>
363-0421-00 G	Mastering Digital Business Models <i>Number of participants limited to 110</i> <i>The lecture takes place in classroom, online via zoom and recorded.</i>			2 hrs	Tue	08-10	ML H44	
<b>363-0445-00L</b>	<b>Production and Operations Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				<b>T. Netland</b>
363-0445-00 G	Production and Operations Management <i>This course can be followed fully online and offers extracurricular opportunities for students who want to engage with the teaching staff in the classroom.</i>			2 hrs	Thu	14-16	CAB G11	

#### ►►► Quantitative and Qualitative Methods for Solving Complex Problems

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0541-00L</b>	<b>Systems Dynamics and Complexity</b>	<b>W+</b>	<b>3 credits</b>	<b>3G</b>				<b>F. Schweitzer</b>
363-0541-00 G	Systems Dynamics and Complexity <i>Lecture: Thursday, 08-10 h</i> <i>Exercises: Tuesday, 12-13 h</i> <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Tue Thu	12-13 08-10	HG D1.2 HG D1.2	

#### ►►► Micro and Macroeconomics

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0565-00L</b>	<b>Principles of Macroeconomics</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				<b>J.-E. Sturm</b>
363-0565-00 V	Principles of Macroeconomics <i>Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1.</i> <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Tue	16-18	ETA F5 ETF E1	
<b>363-0503-00L</b>	<b>Principles of Microeconomics</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				<b>M. Filippini</b>
363-0503-00 G	Principles of Microeconomics <i>GESS (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L</i> <i>Einführung in die Mikroökonomie.</i> <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	18-20	HG F7	

#### ►►► Financial Management

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0711-00L</b>	<b>Accounting for Managers</b>	<b>W+</b>	<b>3 credits</b>	<b>2V</b>				<b>J.-P. Chardonens</b>
363-0711-00 V	Accounting for Managers <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Thu	10-12	HG F3	

## ► 3. Semester

### ►► Core Courses

#### ►►► Strategy, Markets and Technology

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0387-00L</b>	<b>Corporate Sustainability</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				

363-0387-00 G	Corporate Sustainability <i>The course combines online learning elements and live sessions, some of which are recorded. Several course sessions require live attendance. Details are provided on the moodle course page.</i>	2 hrs	Wed/2	16-18	HG E21 HG E22 HG F3 ML E12	<b>V. Hoffmann, C. Bening-Bach, N. U. Blum, J. Meuer</b>
<b>363-0392-00L</b>	<b>Strategic Management</b> <i>Number of participants limited to 80.</i>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>		
363-0392-00 G	Strategic Management <i>Permission from lecturers required for all students Irregular lecture Presentation slots for case studies will be communicated in class. The lecture takes place in classroom, online via livestreaming or zoom and recorded. An exception of course is the guest lecturers and presentations which will only be livestreamed and not recorded.</i>	2 hrs	Mon	16-19	ML F39 ML H44	<b>Y. R. Shrestha</b>

### ►►► Information and Operations Management

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0453-00L</b>	<b>Strategic Supply Chain Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
363-0453-00 G	Strategic Supply Chain Management <i>The lecture takes place online via livestreaming or zoom and recorded. The reserved room is meant for those students who want to follow the course from Zentrum campus.</i>			2 hrs	Wed	08-10	HG E1.1	<b>S. Wagner</b>
<b>363-0425-00L</b>	<b>Transformation: Corporate Development and IT</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
363-0425-00 G	Transformation: Corporate Development and IT <i>Irregular lecture The lecture starts at 12.30 - 18.00.  The lecture takes place online via Zoom (recorded).</i>			30s hrs	27.09. 18.10. 01.11. 15.11. 29.11.	12-18 12-18 12-18 12-18 12-18	ON LINE ON LINE ON LINE ON LINE ON LINE	<b>T. Gutzwiller</b>

### ►►► Quantitative and Qualitative Methods for Solving Complex Problems

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0305-00L</b>	<b>Empirical Methods in Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
363-0305-00 G	Empirical Methods in Management <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Wed	14-16	HG E1.1	<b>S. Tillmanns</b>
<b>363-1004-00L</b>	<b>Operations Research</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
363-1004-00 G	Operations Research <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Mon	08-10	ML F39	<b>S. Bütikofer van Oordt</b>

### ►►► Micro and Macroeconomics

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0537-00L</b>	<b>Resource and Environmental Economics</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Wed	10-12	HG G3	<b>L. Bretschger</b>

### ►►► Financial Management

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0723-00L</b>	<b>Corporate Finance</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
363-0723-00 G	Corporate Finance <i>Irregular course (s. room reservations)  The lecture will be recorded.</i>			28s hrs	Sat/2 20.11. 27.11.	09-13 09-13 09-13	HG F3 ON LINE ON LINE	<b>A. Kind</b>
<b>363-0561-00L</b>	<b>Financial Market Risks</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
363-0561-00 G	Financial Market Risks <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Mon	10-12	ML H44	<b>D. Sornette</b>

### ► Skill-Based Training, 1. and 3. Semester

Number	Title	Type	ECTS	Hours				Lecturers
<b>365-1099-00L</b>	<b>Design Thinking: A Human-Centred Approach to Problem Solving</b> <i>Exclusively for MAS MTEC students (3rd semester). Minimum number of participants: 15 students.</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>				
365-1099-00 S	Design Thinking: A Human-Centred Approach to Problem Solving <i>Two-day course</i>			16s hrs	05.11. 06.11.	08-17 08-17	WEV F109 WEV F109	<b>L. Armbruster</b>
<b>365-1019-00L</b>	<b>Human Resource Management: Skills in Practice</b> <i>Exclusively for MAS MTEC students (3rd semester). Prior participation in the lecture "Human Resource Management: Leading Teams" (363-0302-00) in spring semester is</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>				



recommended.

365-1019-00 S	Human Resource Management: Skills in Practice <i>Crash course of 3 days.</i> <i>Friday and Saturday: 08:15-17:00.</i> <i>The lecture takes place ONLINE via Zoom (not recorded).</i>	24s hrs	29.10. 08-17 03.12. 08-17 04.12. 08-17	ON LINE ON LINE ON LINE	<b>M. Gubler, M. Kolbe</b>
<b>365-1092-00L</b>	<b>Personal Leadership Skills</b> <i>Exclusively for MAS MTEC students (3rd semester).</i> <i>Please register by 02.08.2021 at the latest via myStudies.</i> <i>The groups can be choosed via myStudies.</i>	<b>W</b>	<b>2 credits</b>	<b>3S</b>	
365-1092-00 S	Personal Leadership Skills <i>Groups are selected in myStudies.</i> <i>6 day course (2 x 3 days):</i>  <i>Group 1: 12.08./13.08./14.08.2021 and 26.08./27.08./28.08.2021; 09:15 – 17:00 h</i>  <i>Group 2 ONLINE (not recorded): 19.08./20.08./21.08.2021 and 09.09./10.09./11.09.2021; 08:30 – 17:30 h</i>	42s hrs	12.08. 09-17 13.08. 09-17 14.08. 09-17 19.08. 08-18 20.08. 08-18 21.08. 08-18 26.08. 09-17 27.08. 09-17 28.08. 09-17 09.09. 08-18 10.09. 08-18 11.09. 08-18	HG F5 HG F5 HG F5 ON LINE ON LINE ON LINE HG F5 HG F5 HG F5 ON LINE ON LINE ON LINE	<b>P. Romann</b>
<b>365-0347-00L</b>	<b>Negotiation and Advocacy Skills</b> <i>Exclusively for MAS MTEC students (3rd semester).</i> <i>Completion of "Introduction to Negotiation" (363-1039-00) in an earlier semester is mandatory.</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>	
365-0347-00 S	Negotiation and Advocacy Skills <i>Two-day course.</i> <i>Friday 08:15-17:00.</i> <i>The lecture takes place ONLINE via Zoom (not recorded).</i>	16s hrs	01.10. 08-17 15.10. 08-17	ON LINE ON LINE	<b>M. Gutmann</b>
<b>365-1149-00L</b>	<b>Introduction to Personal Branding and Storytelling</b> <i>Exclusively for MAS MTEC students (1st and 3rd semester), Priority will be given to the 3rd semester students.</i> <i>Students, who have already successfully completed the course "Presentation Skills" (365-0351-00) can't register again.</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>	
365-1149-00 S	Introduction to Personal Branding and Storytelling <i>Two-day course.</i> <i>Friday and Saturday: 08:15-17:00.</i> <i>The lecture takes place ONLINE via Zoom (not recorded).</i>  <i>An optional 1 hour debriefing session will take place online a few weeks after the seminar. Further details will follow.</i>	16s hrs	24.09. 08-17 25.09. 08-17	ON LINE ON LINE	<b>B. Rübel, P. Geissbühler</b>

## ► Electives, 1. and 3. Semester

Number	Title	Type	ECTS	Hours	Lecturers
<b>365-1145-00L</b>	<b>Applied Finance and Investment for Managers</b> <i>Exclusively for MAS MTEC students (3rd semester).</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>	
365-1145-00 S	Applied Finance and Investment for Managers <i>Three-day course.</i> <i>Students can attend the course on-site or Online (not recorded).</i> <i>Saturday 02.10.2021 08:15-17:00.</i> <i>Friday 08.10.2021 08:15-12:00.</i> <i>Saturday: 09.10.2021 08:15-12:00.</i>		16s hrs	02.10. 08-17 08.10. 08-12 09.10. 08-12	WEV F109 WEV F109 WEV F109 <b>S. Zaker</b>
<b>365-1143-00L</b>	<b>Digital Transformation: Integrating Cloud and Business</b> <i>Exclusively for MAS MTEC students (3rd semester).</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>	
365-1143-00 S	Digital Transformation: Integrating Cloud and Business <i>Two-day course</i>		16s hrs	20.11. 08-17 11.12. 08-17	LEE D101 LEE D105 HG G26.3 HG G26.5 <b>R. Halbheer</b>
<b>365-1083-00L</b>	<b>Leading the Technology-Driven Enterprise</b> <i>Exclusively for MAS MTEC students (1st and 3rd semester), Priority will be given to the 3rd semester students.</i> <i>An enrolment for the lecture "Introduction to Management" (363-0341-00) is mandatory.</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>	
365-1083-00 S	Leading the Technology-Driven Enterprise <i>Two-day course</i>		16s hrs	05.11. 09-17 06.11. 08-18	LEE E101 LEE E101 <b>J. O'Neil, D. Röttger</b>
<b>365-1059-00L</b>	<b>Practicing Strategy</b> <i>Exclusively for MAS MTEC students (3rd semester).</i> <i>A prior/parallel enrolment for the lecture</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>	

"Strategic Management" (363-0392-00) is mandatory.								
365-1059-00 S	Practicing Strategy Two-day course			16s hrs	22.10. 19.11.	10-19 10-19	WEV F109 WEV F109	S. Herting
365-1142-00L	Understanding Human Behavior - Research and Business Insights Exclusively for MAS MTEC students (3rd semester).	W	1 credit	1V				
365-1142-00 V	Understanding Human Behavior - Research and Business Insights 22.09.2021 / 29.09.2021 / 06.10.2021 on-site at ETH or Online via Zoom (not recorded) and 12.11.2021 at location of business partner or Online via Zoom (not recorded). Wednesday: 18:15-21:00; Friday 14:00-18:00.			13s hrs	22.09. 29.09. 06.10. 12.11.	18-21 18-21 18-21 14-18	ON LINE ON LINE WEV F109 Ex tern	S. Andraszewicz, B. J. Bergmann
365-1067-00L	(Un)ethical Decision Making: Alternative and Critical Thinking in Management	W	2 credits	2S				
365-1067-00 S	(Un)ethical Decision Making: Alternative and Critical Thinking in Management Three-day course: 16.09.2021 / 17.09.2021 / 18.09.2021. Thursday and Friday: 09:15-18:00; Saturday: 08:15-17:00. Students can attend the course on-site or ONLINE via Zoom (not recorded).			24s hrs	16.09. 17.09. 18.09.	09-18 09-18 08-17	HG D3.2 HG D3.2 HG D3.2	T. Ramus
363-1044-00L	Applied Negotiation Seminar Number of participants limited to 30.  Prerequisites: Successful completion of lectures "363-1039-00L Introduction to Negotiation".	W	3 credits	2S				
363-1044-00 S	Applied Negotiation Seminar ■ Permission from lecturers required for all students Block course			22s hrs	01.10.    02.10.   15.10.   16.10.	09-17    09-17   09-17   09-17	HG E33.1 HG E33.3 HG E33.5 HG E33.1 HG E33.3 HG E33.5 HG E33.1 HG E33.3 HG E33.5 HG E33.1 HG E33.3 HG E33.5	A. Knobel
363-0861-00L	Alliance Advantage - Exploring the Value Creation Potential of Collaborations	W	3 credits	2G				
363-0861-00 G	Alliance Advantage - Exploring the Value Creation Potential of Collaborations Introduction: 23.09.2021 Block Course: 27.10.2021 & 28.10.2021 Final Presentation: 16.12.2021			28s hrs	23.09. 27.10. 28.10. 16.12.	16-19 08-20 08-20 16-19	LFW B3 LFW B2 LFW B2 n/a	C. G. C. Marx
363-1051-00L	Cases in Technology Marketing Number of participants limited to 20.  Students have to apply for this course by sending a CV and an one-page motivation letter until 10.09.2021 to Theresa Schachner: tschachner@ethz.ch. Additionally please enroll via myStudies. Places will be assigned on the basis of your motivation letter.	W	3 credits	1G				
363-1051-00 G	Cases in Technology Marketing Permission from lecturers required for all students Block course 06.12.2021, whole day at Bühler Group in Uzwil			16s hrs	20.09. 18.10. 08.11. 29.11. 06.12.	17-20 17-20 17-20 17-20 08-16	WEV F109 WEV F109 WEV F109 WEV F109 Ex tern	F. von Wangenheim, S. Schär
363-0393-00L	Corporate Strategy Due to didactic considerations, the number of participants for this course is limited to 45.  Please register through myStudies to enroll for the course. Slots are assigned on a first-come first-serve basis (in the order of the registration date on myStudies). We will confirm your registration by e-mail. If you have any inquiries about the course, please contact the course assistant.	W	3 credits	2V				
363-0393-00 V	Corporate Strategy The lecture takes place online via livestreaming or zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.			2 hrs	Mon	10-12	ML F39	S. Ben-Menahem
363-1135-00L	Digital Health Project Number of participants limited to 30.	W	3 credits	2V				

363-1135-00 V	Digital Health Project <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Some sessions will be held from Singapore.</i>		2 hrs	Thu	08-10	NO D11	T. Kowatsch
363-1082-00L	<b>Enabling Entrepreneurship: From Science to Startup</b> <i>Students should provide a brief overview (unto 1 page) of their business ideas that they would like to commercialise through the course. If they do not have an idea, they are required to provide a motivation letter stating why they would like to do this elective. If you are unsure about the readiness of your idea or technology to be converted into a startup, please drop me a line to schedule a call or meeting to discuss.</i>  <i>The total number of students will be limited to 40. It is preferable that the students already form teams of at least two persons, where both the team-members would like to do the course. The names of the team-members should be provided together with the business idea or the motivation letter submitted by the students.</i>  <i>The students should submit the necessary information until September 13 and apply to anilsethi@ethz.ch</i>	W	3 credits	2V			
363-1082-00 V	Enabling Entrepreneurship: From Science to Startup		2 hrs	Mon	16-18	HG E33.1	A. Sethi
363-1028-00L	<b>Entrepreneurial Leadership</b> <i>Limited number of participants.</i>  <i>Students apply for this course via the official website no later than August 23 (<a href="https://www.mtec.ethz.ch/studies/special-programmes/els.html">https://www.mtec.ethz.ch/studies/special-programmes/els.html</a>). Once your application is confirmed, registration in myStudies is possible.</i>	W	4 credits	3S			
363-1028-00 S	Entrepreneurial Leadership ■ <i>Permission from lecturers required for all students Irregular lecture Additional classes: tba</i>		45s hrs	Wed	10-13	WEV H326	Z. Erden Özkol, S. Brusoni, T. Netland, P. Tinguely
363-0887-00L	<b>Management Research</b> <i>Participation in both sessions and completion of all assignments is required to receive the credit. This course requires preparation time and completion of an assignment before the first course day. Please check the Moodle course page for more information.</i>	W	1 credit	1S			
363-0887-00 S	Management Research ■ <i>Block course</i>  <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>		14s hrs	24.09. 08.10.	08-16 08-16	HG E33.1 HG E33.1	N. Geilinger
363-1080-00L	<b>Power and Leadership</b>	W	3 credits	2S			
363-1080-00 S	Power and Leadership <i>Does not take place this semester. From FS22 in the spring semester.</i>		2 hrs				P. Schmid
363-0445-02L	<b>Production and Operations Management – Supplement Credit</b> <i>A parallel enrolment to the lecture 363-0445-00L Production and Operations Management is mandatory.</i>	W	1 credit	1A			
363-0445-02 A	Production and Operations Management – Supplement Credit <i>Does not take place this semester. Irregular lecture</i>		7s hrs				T. Netland
363-0311-00L	<b>Psychological Aspects of Risk Management and Technology</b> <i>Number of participants limited to 65.</i>	W	3 credits	2V			
363-0311-00 V	Psychological Aspects of Risk Management and Technology		2 hrs	Wed	16-18	LFW B1	G. Grote, N. Bienefeld-Seall, J. Schmutz, R. Schneider, M. Zumbühl
363-0790-00L	<b>Technology Entrepreneurship</b>	W	2 credits	2V			

363-0790-00 V Technology Entrepreneurship 2 hrs Tue 18-20 HG E5 F. Hacklin  
*The lecture takes place online via (livestreaming or) zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.*

*see elective courses MTEC MSc*

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
365-0899-00L	<b>Master's Thesis in a Company</b> <i>Exclusively for MAS MTEC students.</i>	O	12 credits	24D	
365-0899-00 D	Master's Thesis in a Company			330s hrs by appt.	Professors

## MAS in Management, Technology, and Economics - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# MAS in Medical Physics

## ► Compulsory Courses (for both Specialisations)

Number	Title	Type	ECTS	Hours	Lecturers			
<b>465-0957-00L</b>	<b>Anatomy and Physiology for Medical Physicists I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
465-0957-00 V	Anatomy and Physiology for Medical Physicists I <i>Does not take place this semester.</i>			2 hrs				
<b>465-0953-00L</b>	<b>Biostatistics</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>				
465-0953-00 V	Biostatistics <i>Does not take place this semester.</i>			2 hrs				
465-0953-00 U	Biostatistics <i>Does not take place this semester.</i>			1 hrs				
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>O</b>	<b>6 credits</b>	<b>5G</b>				
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>			5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7	<b>S. Kozerke, K. P. Prüssmann</b>
<b>465-0966-00L</b>	<b>Physics in Radiodiagnostic and Nuclear Medicine</b>	<b>O</b>	<b>2 credits</b>	<b>3G</b>				
465-0966-00 G	Physics in Radiodiagnostic and Nuclear Medicine <i>Does not take place this semester.</i> <i>**Course at University of Lausanne**</i> <i>Block course</i>			40s hrs				

## ► Specialisation in Radiation Therapy

### ►► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers			
<b>402-0341-00L</b>	<b>Medical Physics I</b>	<b>O</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0341-00 V	Medical Physics I			2 hrs	Thu	16-18	HPT C103	<b>P. Manser</b>
402-0341-00 U	Medical Physics I			1 hrs	Thu	18-19	HPT C103	<b>P. Manser</b>
<b>227-0943-00L</b>	<b>Radiobiology</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
227-0943-00 V	Radiobiology <i>The lecture does not take place on October 14.</i>			2 hrs	Thu	14-16	HCI D8	<b>M. Pruschy</b>

### ►► Practical Work

Number	Title	Type	ECTS	Hours	Lecturers			
<b>465-0956-00L</b>	<b>Dosimetry</b> <i>Only for MAS in Medical Physics</i>	<b>O</b>	<b>4 credits</b>	<b>6G</b>				
465-0956-00 G	Dosimetrie <i>Does not take place this semester.</i> <i>Blockkurs am Inselspital Bern.</i>  <i>Die Lehrveranstaltung wird ausnahmsweise im FS 2022 angeboten.</i>			80s hrs	by appt.			

## ► Specialisation in General Medical Physics

### ►► Major in Radiation Therapy

#### ►►► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers			
<b>402-0341-00L</b>	<b>Medical Physics I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0341-00 V	Medical Physics I			2 hrs	Thu	16-18	HPT C103	<b>P. Manser</b>
402-0341-00 U	Medical Physics I			1 hrs	Thu	18-19	HPT C103	<b>P. Manser</b>
<b>227-0943-00L</b>	<b>Radiobiology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
227-0943-00 V	Radiobiology <i>The lecture does not take place on October 14.</i>			2 hrs	Thu	14-16	HCI D8	<b>M. Pruschy</b>

#### ►►► Practical Work

Number	Title	Type	ECTS	Hours	Lecturers	
465-0956-00L	<b>Dosimetry</b> <i>Only for MAS in Medical Physics</i>	<b>W</b>	<b>4 credits</b>	<b>6G</b>		
465-0956-00 G	Dosimetrie <i>Does not take place this semester.</i> <i>Blockkurs am Inselspital Bern.</i>  <i>Die Lehrveranstaltung wird ausnahmsweise im FS 2022 angeboten.</i>			80s hrs	by appt.	
465-0800-00L	<b>Practical Work</b> <i>Only for MAS in Medical Physics</i>	<b>W</b>	<b>4 credits</b>			
465-0800-00 P	Practical Work					external organisers

#### ►►► Electives

Number	Title	Type	ECTS	Hours	Lecturers			
<b>227-0965-00L</b>	<b>Micro and Nano-Tomography of Biological Tissues</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				

227-0965-00 G	Micro and Nano-Tomography of Biological Tissues			3 hrs	Mon	09-12	ETZ E9	<b>M. Stampanoni,</b> F. Marone Welford
<b>227-0941-00L</b>	<b>Physics and Mathematics of Radiotherapy Planning (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: PHY471 <a href="https://www.uzh.ch/cmsssl/en/studies/application/chmobilityin.html">https://www.uzh.ch/cmsssl/en/studies/application/chmobilityin.html</a></i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
227-0941-00 G	Physics and Mathematics of Radiotherapy Planning (University of Zurich) <b>**Course at University of Zurich**</b>			3 hrs	Wed	10-13	UNI ZH.	University lecturers
<b>402-0674-00L</b>	<b>Physics in Medical Research: From Atoms to Cells</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	<b>B. K. R. Müller</b>
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	<b>B. K. R. Müller</b>
<b>►► Major in Biomechanics</b>								
<b>►►► Core Courses</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>227-0386-00L</b>	<b>Biomedical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0386-00 G	Biomedical Engineering <b>**together with University of Zurich**</b>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1	<b>J. Vörös,</b> S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong
<b>227-0965-00L</b>	<b>Micro and Nano-Tomography of Biological Tissues</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues			3 hrs	Mon	09-12	ETZ E9	<b>M. Stampanoni,</b> F. Marone Welford
<b>376-1651-00L</b>	<b>Clinical and Movement Biomechanics</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
376-1651-00 G	Clinical and Movement Biomechanics			3 hrs	Wed	14-17	HIL E9	<b>N. Singh,</b> R. List, P. Schütz
<b>376-1985-00L</b>	<b>Trauma Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
376-1985-00 V	Trauma Biomechanics			2 hrs	Thu	10-12	HG D7.1	<b>K.-U. Schmitt,</b> M. H. Muser
376-1985-00 U	Trauma Biomechanics			1 hrs	Thu/2w	14-16	HG E33.3	<b>K.-U. Schmitt,</b> M. H. Muser
<b>►►► Practical Work</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>465-0800-00L</b>	<b>Practical Work</b> <i>Only for MAS in Medical Physics</i>	<b>O</b>	<b>4 credits</b>					
465-0800-00 P	Practical Work							external organisers
<b>►►► Electives</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>151-0524-00L</b>	<b>Continuum Mechanics I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0524-00 V	Continuum Mechanics I			2 hrs	Fri	08-10	HG D5.2	<b>E. Mazza,</b> A. E. Ehret
151-0524-00 U	Continuum Mechanics I <i>Exercises start in the second week of the semester.</i>			1 hrs	Wed	12-13	HG E1.1	<b>E. Mazza,</b> A. E. Ehret
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60	<b>B. Nelson,</b> N. Shamsudhin
<b>376-2017-00L</b>	<b>Biomechanics of Sports Injuries and Rehabilitation</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-2017-00 V	Biomechanik von Sportverletzungen und Rehabilitation			2 hrs	Mon	16-18	HG D5.2	<b>K.-U. Schmitt,</b> J. Goldhahn
<b>►► Major in Bioimaging</b>								
<b>►►► Core Courses</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>227-0386-00L</b>	<b>Biomedical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0386-00 G	Biomedical Engineering <b>**together with University of Zurich**</b>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1	<b>J. Vörös,</b> S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>				
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1	<b>L. Van Gool,</b> E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool,</b> E. Konukoglu, F. Yu
<b>►►► Practical Work</b>								

Number	Title	Type	ECTS	Hours				Lecturers
465-0800-00L	<b>Practical Work</b> <i>Only for MAS in Medical Physics</i>	O	4 credits					
465-0800-00 P	Practical Work							external organisers
▶▶▶ Electives								
Number	Title	Type	ECTS	Hours				Lecturers
151-0605-00L	<b>Nanosystems</b>	W	4 credits	4G				
151-0605-00 G	Nanosystems <i>Lecture: Thursday 10-13. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Exercises: will take place in the laboratories.</i>			4 hrs	Thu	10-13	ML F40	A. Stemmer
227-0965-00L	<b>Micro and Nano-Tomography of Biological Tissues</b>	W	4 credits	3G				
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues			3 hrs	Mon	09-12	ETZ E9	M. Stampanoni, F. Marone Welford
227-0967-00L	<b>Computational Neuroimaging Clinic</b> <i>Prerequisite: Successful completion of course "Methods &amp; Models for fMRI Data Analysis", "Translational Neuromodeling" or "Computational Psychiatry"</i>	W	3 credits	2V				
227-0967-00 V	Computational Neuroimaging Clinic <i>Place: WIL-F-105 at TNU (Wilfriedstrasse 6, 8032 Zürich)</i>			2 hrs	Wed	10-12	Ex tern	K. Stephan
227-0969-00L	<b>Methods &amp; Models for fMRI Data Analysis</b>	W	6 credits	4V				
227-0969-00 V	Methods & Models for fMRI Data Analysis			4 hrs	Tue	08-12	ETZ E6	K. Stephan
402-0674-00L	<b>Physics in Medical Research: From Atoms to Cells</b>	W	6 credits	2V+1U				
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	B. K. R. Müller
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	B. K. R. Müller
227-2037-00L	<b>Physical Modelling and Simulation</b>	W	6 credits	4G				
227-2037-00 G	Physical Modelling and Simulation			4 hrs	Thu	08-12	ETZ E6	J. Smajic
▶▶ Major in Bioengineering								
▶▶▶ Core Courses								
Number	Title	Type	ECTS	Hours				Lecturers
227-0965-00L	<b>Micro and Nano-Tomography of Biological Tissues</b>	W	4 credits	3G				
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues			3 hrs	Mon	09-12	ETZ E9	M. Stampanoni, F. Marone Welford
376-1103-00L	<b>Frontiers in Nanotechnology</b>	W	4 credits	4V				
376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri	10-12 14-16	HCP E47.3 HCP E47.3	V. Vogel, further lecturers
376-1714-00L	<b>Biocompatible Materials</b>	W	4 credits	3V				
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3	K. Maniura, M. Rottmar, M. Zenobi-Wong
636-0108-00L	<b>Biological Engineering and Biotechnology</b>	W	4 credits	3V				
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2). Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2	M. Fussenegger
▶▶▶ Practical Work								
Number	Title	Type	ECTS	Hours				Lecturers
465-0800-00L	<b>Practical Work</b> <i>Only for MAS in Medical Physics</i>	O	4 credits					
465-0800-00 P	Practical Work							external organisers
▶▶▶ Electives								
<i>376-1622-00L Practical Methods in Tissue Engineering (offered in the Autumn Semester) and 376-1624-00L Practical Methods in Biofabrication (offered in the Spring Semester) are mutually exclusive to be eligible for credits.</i>								
Number	Title	Type	ECTS	Hours				Lecturers
151-0604-00L	<b>Microrobotics</b>	W	4 credits	3G				
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60	B. Nelson, N. Shamsudhin
227-0386-00L	<b>Biomedical Engineering</b>	W	4 credits	3G				
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1	J. Vörös, S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong

327-1101-00 V	Biom mineralization			2 hrs	Tue	10-12	ML H34.3	<b>K.-H. Ernst</b>
<b>376-1622-00L</b>	<b>Practical Methods in Tissue Engineering W</b>	<b>5 credits</b>	<b>4P</b>					
	<i>Number of participants limited to 12.</i>							
376-1622-00 P	Practical Methods in Tissue Engineering ■			4 hrs	Mon	13-17	HPL D21.2	<b>M. Zenobi-Wong,</b> S. J. Ferguson, S. Grad, S. Schürle-Finke
<b>402-0674-00L</b>	<b>Physics in Medical Research: From Atoms to Cells</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	<b>B. K. R. Müller</b>
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	<b>B. K. R. Müller</b>
<b>535-0423-00L</b>	<b>Drug Delivery and Drug Targeting</b>	<b>W</b>	<b>2 credits</b>	<b>1.5V</b>				
535-0423-00 V	Drug Delivery and Drug Targeting			1.5 hrs	Tue/1	13-16	HIL E9	<b>J.-C. Leroux,</b> A. Steinauer
<b>227-0393-10L</b>	<b>Bioelectronics and Biosensors</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0393-10 V	Bioelectronics and Biosensors			2 hrs	Fri	09-11	HG E1.2	<b>J. Vörös,</b> M. F. Yanik
227-0393-10 U	Bioelectronics and Biosensors			2 hrs	Fri	08-09 11-12	HG E1.2 HG E1.2	<b>M. F. Yanik,</b> J. Vörös

## ►► Major in Bioelectronics

### ►►► Core Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60		<b>B. Nelson,</b> N. Shamsudhin
<b>227-0386-00L</b>	<b>Biomedical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1		<b>J. Vörös,</b> S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong
<b>227-1037-00L</b>	<b>Introduction to Neuroinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1A</b>					
227-1037-00 V	Introduction to Neuroinformatics			2 hrs	Thu	08-10	NO C60		<b>V. Mante,</b> M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 U	Introduction to Neuroinformatics			1 hrs	Thu	10-11	NO C60		<b>V. Mante,</b> M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 A	Introduction to Neuroinformatics <i>Self-study, no fixed presence required.</i>			1 hrs					<b>V. Mante</b>
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h</i> <i>Übungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3		<b>K. Maniura,</b> M. Rottmar, M. Zenobi-Wong
<b>227-0393-10L</b>	<b>Bioelectronics and Biosensors</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0393-10 V	Bioelectronics and Biosensors			2 hrs	Fri	09-11	HG E1.2		<b>J. Vörös,</b> M. F. Yanik
227-0393-10 U	Bioelectronics and Biosensors			2 hrs	Fri	08-09 11-12	HG E1.2 HG E1.2		<b>M. F. Yanik,</b> J. Vörös

### ►►► Practical Work

Number	Title	Type	ECTS	Hours					Lecturers
<b>465-0800-00L</b>	<b>Practical Work</b>	<b>O</b>	<b>4 credits</b>						
	<i>Only for MAS in Medical Physics</i>								
465-0800-00 P	Practical Work								external organisers

### ►►► Electives

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-1033-00L</b>	<b>Neuromorphic Engineering I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>					
	<i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>								
	<i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module INI404 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>								
227-1033-00 V	Neuromorphic Engineering I <i>Permission from lecturers required for all students</i> <i>**together with University of Zurich**</i> <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Mon	14-16	ON LINE		<b>T. Delbrück,</b> G. Indiveri, S.-C. Liu



227-1033-00 U	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich**</i>		3 hrs	by appt.					<b>T. Delbrück, G. Indiveri, S.-C. Liu</b>
<i>Dates by arrangement.</i>									
<b>227-2037-00L</b>	<b>Physical Modelling and Simulation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-2037-00 G	Physical Modelling and Simulation			4 hrs	Thu	08-12	ETZ E6		<b>J. Smajic</b>
<b>376-1103-00L</b>	<b>Frontiers in Nanotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>4V</b>					
376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri	10-12 14-16	HCP E47.3 HCP E47.3		<b>V. Vogel</b> , further lecturers
<b>402-0674-00L</b>	<b>Physics in Medical Research: From Atoms to Cells</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1		<b>B. K. R. Müller</b>
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1		<b>B. K. R. Müller</b>
<b>529-0837-01L</b>	<b>Biomicrofluidic Engineering</b> <i>Number of participants limited to 25.</i>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0837-01 G	Biomicrofluidic Engineering			3 hrs	Mon Tue	16-18 12-13	HCI H8.1 HCI J7		<b>A. de Mello</b>
<b>636-0108-00L</b>	<b>Biological Engineering and Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2). Attention: Lecture starts on Wednesday, September 29 2021</i>			3 hrs	Wed	13-16	BSA E46 HG D16.2		<b>M. Fussenegger</b>

## ►► Major in Neuroinformatics

### ►►► Core Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-1037-00L</b>	<b>Introduction to Neuroinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1A</b>					
227-1037-00 V	Introduction to Neuroinformatics			2 hrs	Thu	08-10	NO C60		<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 U	Introduction to Neuroinformatics			1 hrs	Thu	10-11	NO C60		<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 A	Introduction to Neuroinformatics <i>Self-study, no fixed presence required.</i>			1 hrs					<b>V. Mante</b>
<b>227-0393-10L</b>	<b>Bioelectronics and Biosensors</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0393-10 V	Bioelectronics and Biosensors			2 hrs	Fri	09-11	HG E1.2		<b>J. Vörös</b> , M. F. Yanik
227-0393-10 U	Bioelectronics and Biosensors			2 hrs	Fri	08-09 11-12	HG E1.2 HG E1.2		<b>M. F. Yanik</b> , J. Vörös
<b>227-0421-00L</b>	<b>Deep Learning in Artificial and Biological Neuronal Networks</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0421-00 G	Deep Learning in Artificial and Biological Neuronal Networks			3 hrs	Wed	09-12	ML F34		<b>B. Grewe</b>

### ►►► Practical Work

Number	Title	Type	ECTS	Hours					Lecturers
<b>465-0800-00L</b>	<b>Practical Work</b> <i>Only for MAS in Medical Physics</i>	<b>O</b>	<b>4 credits</b>						
465-0800-00 P	Practical Work								external organisers

### ►►► Electives

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-1033-00L</b>	<b>Neuromorphic Engineering I</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>					
Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module INI404 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a>									
227-1033-00 V	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich** The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Mon	14-16	ON LINE		<b>T. Delbrück, G. Indiveri, S.-C. Liu</b>

227-1033-00 U	Neuromorphic Engineering I <i>Permission from lecturers required for all students</i> <i>**together with University of Zurich**</i>		3 hrs	by appt.					T. Delbrück, G. Indiveri, S.-C. Liu
<i>Dates by arrangement.</i>									
376-1791-00L	<b>Introductory Course in Neuroscience I (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich.</i> <i>Book the corresponding module directly at UZH as an incoming student.</i> <i>UZH Module Code: SPV0Y005</i>	W	2 credits	2V					
<i>Mind the enrolment deadlines at UZH:</i> <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a>									
376-1791-00 V	Introductory Course in Neuroscience I (University of Zurich) <i>**together with University of Zurich**</i>		2 hrs	Mon	16-18	UNI ZH.			University lecturers
<i>Kurs des Zentrums für Neurowissenschaften Zürich (ZNZ)</i>									
<i>Beginn 20.09.2021</i>									
227-2037-00L	<b>Physical Modelling and Simulation</b>	W	6 credits	4G					
227-2037-00 G	Physical Modelling and Simulation			4 hrs	Thu	08-12	ETZ E6		J. Smajic
227-1051-00L	<b>Systems Neuroscience (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich.</i> <i>Book the corresponding module directly at UZH as an incoming student.</i> <i>UZH Module Code: INI415</i>	W	6 credits	2V+1U					
<i>Mind the enrolment deadlines at UZH:</i> <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a>									
227-1051-00 V	Systems Neuroscience (University of Zurich) <i>**Course at University of Zurich**</i>		2 hrs						D. Kiper
227-1051-00 U	Systems Neuroscience (University of Zurich) <i>**Course at University of Zurich**</i>		1 hrs	by appt.					D. Kiper
<i>Dates by arrangement.</i>									

## ►► Major in Biocompatible Materials

### ►►► Core Courses

376-1622-00L *Practical Methods in Tissue Engineering* (offered in the Autumn Semester) and 376-1624-00L *Practical Methods in Biofabrication* (offered in the Spring Semester) are mutually exclusive to be eligible for credits.

Number	Title	Type	ECTS	Hours				Lecturers
227-0965-00L	Micro and Nano-Tomography of Biological Tissues	W	4 credits	3G				
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues			3 hrs	Mon	09-12	ETZ E9	M. Stampanoni, F. Marone Welford
376-1622-00L	Practical Methods in Tissue Engineering	W	5 credits	4P				
Number of participants limited to 12.								
376-1622-00 P	Practical Methods in Tissue Engineering ■			4 hrs	Mon	13-17	HPL D21.2	M. Zenobi-Wong, S. J. Ferguson, S. Grad, S. Schürle-Finke
376-1714-00L	Biocompatible Materials	W	4 credits	3V				
376-1714-00 V	Biocompatible Materials Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h			3 hrs	Fri	09-12	HG G3	K. Maniura, M. Rottmar, M. Zenobi-Wong

### ►►► Practical Work

Number	Title	Type	ECTS	Hours						Lecturers
465-0800-00L	<b>Practical Work</b> <i>Only for MAS in Medical Physics</i>	O	4 credits							
465-0800-00 P	Practical Work									external organisers

### ►►► Electives

Number	Title	Type	ECTS	Hours						Lecturers
327-1101-00L	<b>Biomineralization</b>	W	2 credits	2V						
327-1101-00 V	Biomineralization			2 hrs	Tue	10-12	ML H34.3			K.-H. Ernst
376-1103-00L	<b>Frontiers in Nanotechnology</b>	W	4 credits	4V						
376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri	10-12 14-16	HCP E47.3 HCP E47.3			V. Vogel, further lecturers
402-0674-00L	<b>Physics in Medical Research: From Atoms to Cells</b>	W	6 credits	2V+1U						
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1			B. K. R. Müller
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1			B. K. R. Müller
227-0393-10L	<b>Bioelectronics and Biosensors</b>	W	6 credits	2V+2U						

227-0393-10 V	Bioelectronics and Biosensors		2 hrs	Fri	09-11	HG E1.2	J. Vörös, M. F. Yanik	
227-0393-10 U	Bioelectronics and Biosensors		2 hrs	Fri	08-09 11-12	HG E1.2 HG E1.2	M. F. Yanik, J. Vörös	
376-1353-00L	Nanostructured Materials Safety	W	2 credits	1V				
376-1353-00 V	Nanostructured Materials Safety			1 hrs	Fri/1	12-14	CHN F46	P. Wick
►► Major in Molecular Biology and Biophysics								
►►► Core Courses								
Number	Title	Type	ECTS	Hours				Lecturers
227-0945-00L	Cell and Molecular Biology for Engineers I <i>This course is part I of a two-semester course.</i>	W	3 credits	2G				
227-0945-00 G	Cell and Molecular Biology for Engineers I			2 hrs	Thu	10-12	LFW C5	C. Frei
551-1601-00L	Biophysics of Biological Macromolecules <i>The course will only take place with a minimum of 6 participants</i>	W	6 credits	2V+1U				
551-1601-00 V	Biophysics of Biological Macromolecules <i>Does not take place this semester.</i>			2 hrs				F. Allain, S. Jonas
551-1601-00 U	Biophysics of Biological Macromolecules <i>Does not take place this semester.</i>			1 hrs				F. Allain, S. Jonas
636-0017-00L	Computational Biology	W	6 credits	3G+2A				
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>			3 hrs	Mon	16-18	BSA E46 HG D16.2 HG D16.2	T. Vaughan
					Thu	18-19 12-13	BSA E46	
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>			2 hrs				T. Vaughan
►►► Practical Work								
Number	Title	Type	ECTS	Hours				Lecturers
465-0800-00L	Practical Work <i>Only for MAS in Medical Physics</i>	O	4 credits					
465-0800-00 P	Practical Work							external organisers
►►► Electives								
Number	Title	Type	ECTS	Hours				Lecturers
327-1101-00L	Biom mineralization	W	2 credits	2V				
327-1101-00 V	Biom mineralization			2 hrs	Tue	10-12	ML H34.3	K.-H. Ernst
376-1103-00L	Frontiers in Nanotechnology	W	4 credits	4V				
376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri	10-12 14-16	HCP E47.3 HCP E47.3	V. Vogel, further lecturers
402-0674-00L	Physics in Medical Research: From Atoms to Cells	W	6 credits	2V+1U				
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	B. K. R. Müller
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	B. K. R. Müller
535-0423-00L	Drug Delivery and Drug Targeting	W	2 credits	1.5V				
535-0423-00 V	Drug Delivery and Drug Targeting			1.5 hrs	Tue/1	13-16	HIL E9	J.-C. Leroux, A. Steinauer
551-1615-00L	NMR Methods for Studies of Biological Macromolecules <i>Prerequisites: Basic knowledge in biological NMR spectroscopy.</i>	W	1 credit	2S				
551-1615-00 S	NMR Methods for Studies of Biological Macromolecules			2 hrs	Wed	14-16	HPK D3	A. D. Gossert
551-1619-00L	Structural Biology	W	1 credit	1K				
551-1619-00 K	Strukturbiologie <i>Does not take place this semester. Raum: HPK D3, ETH-Hönggerberg</i>			1 hrs	by appt.			R. Glockshuber, F. Allain, N. Ban, K. Locher, M. Pilhofer, E. Weber-Ban, K. Wüthrich
551-0307-00L	Molecular and Structural Biology I: Protein Structure and Function <i>D-BIOL students are obliged to take part I and part II (next semester) as a two-semester course</i>	W	3 credits	2V				
551-0307-00 V	Molecular and Structural Biology I: Protein Structure and Function			2 hrs	Mon	14-16	HCI J7	R. Glockshuber, K. Locher, E. Weber-Ban
636-0108-00L	Biological Engineering and Biotechnology	W	4 credits	3V				

636-0108-00 V	Biological Engineering and Biotechnology <i>Takes place at the D-BSSE in Basel and is transmitted per video conference to Zürich (HG D16.2).</i> <i>Attention: Lecture starts on Wednesday, September 29 2021</i>	3 hrs	Wed	13-16	BSA E46 HG D16.2	<b>M. Fussenegger</b>
---------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	-----	-------	---------------------	-----------------------

<b>227-2037-00L</b>	<b>Physical Modelling and Simulation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
227-2037-00 G	Physical Modelling and Simulation			4 hrs	Thu	08-12 ETZ E6 <b>J. Smajic</b>

#### MAS in Medical Physics - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# MAS in Future Transport Systems

Four-semester, part-time MAS programme.

Start of the next course: Spring Semester 2023.

More Information at: <http://www.mas-mobilitaet.mavt.ethz.ch/>

## ► Major in Systemic Aspects of Future Transport

The Major in "Systemic Aspects of Future Transport" takes place only in Spring Semester

Start of the next course: Spring Semester 2023

Course duration: Six months part time

Periodicity: Every two years

## ► Major in Technology Potential

The Major in "Major in Technology Potential" takes place only in Autumn Semester

Start of the next course: Autumn Semester 2021

Course duration: Six months part time

Periodicity: Every two years

Number	Title	Type	ECTS	Hours					Lecturers
<b>166-0200-00L</b>	<b>Technology Potential: Powertrain, Systems and Energy Carriers</b> Only for MAS in Future Transport Systems and CAS in Future Transport Systems: Technology Potential.	<b>O</b>	<b>3.5 credits</b>	<b>3G</b>					
166-0200-00 G	Technologie-Potenziale: Antriebs-/Fahrzeugtechnik und Energieträger Blockkurs Einführungsvormittag 24.08.21 Die genauen Unterrichtszeiten werden von den Dozierenden kommuniziert.			45s hrs	24.08.	08-17	LEO C12		<b>C. Onder</b>
					26.08.	08-17	LEO C12		
					27.08.	08-17	LEO C12		
					15.09.	08-17	LEO C12		
					16.09.	08-17	LEO C12		
<b>166-0201-00L</b>	<b>Potential of Spatial Information- and Communication Technologies</b> Only for MAS in Future Transport Systems and CAS in Future Transport Systems: Technology Potential.	<b>O</b>	<b>3 credits</b>	<b>3G</b>					
166-0201-00 G	Potenziale räumlicher Informations- und Kommunikationstechnologien ■ Blockkurs (Ort: LEO C12 oder Höggerberg)			40s hrs	02.11.-	08-12	LEO C12		<b>P. Kiefer</b>
					05.11.				
					08.12.	08-12	LEO C12		
<b>166-0202-00L</b>	<b>Integrated Assessment of Technologies and Transport Systems</b> Only for MAS in Future Transport Systems and CAS in Future Transport Systems: Technology Potential.	<b>O</b>	<b>2 credits</b>	<b>1G</b>					
166-0202-00 G	Integrated Assessment of Technologies and Transport Systems ■ Blockkurs			20s hrs	08.12.	13-17	LEO C12		<b>C. L. Mutel</b>
					09.12.-	08-12	LEO C12		
					10.12.				
						13-17	LEO C12		
<b>166-0203-00L</b>	<b>Energy Carrier for the Mobility of the Future</b> Only for MAS in Future Transport Systems and CAS in Future Transport Systems: Technology Potential.	<b>O</b>	<b>3.5 credits</b>	<b>3G</b>					
166-0203-00 G	Energieträger für eine Mobilität der Zukunft ■ Findet im LEO C 12 (08-12 und 13-17) statt, Ausnahme: 25.08.2021, EMPA Dübendorf 08.10.2021, PSI, Villigen			40s hrs	25.08.	08-17	Ex tern		<b>C. Bach</b>
					17.09.	08-17	LEO C12		
					06.10.	08-17	LEO C12		
					07.10.	08-17	LEO C12		
					08.10.	08-17	Ex tern		
<b>166-0290-00L</b>	<b>CAS Thesis on Technology Potentials</b> Only for MAS in Future Transport Systems and CAS in Future Transport Systems: Technology Potential.	<b>O</b>	<b>3 credits</b>	<b>5D</b>					
166-0290-00 D	CAS-Arbeit Technologie-Potenziale ■ Daten der Veranstaltung (Ort: tbd): 24.08.21 Kick-off CAS Arbeit 27.01.22 Präsentation CAS Arbeit			75s hrs					<b>M. A. Streicher-Porte</b>

## ► Major in New Business Models

The Major in "New Business Models" takes place only in Spring Semester

Start of the next course: Spring Semester 2022

Course duration: Six months part time

Periodicity: Every two years

## ► Major in Transport Engineering

Number	Title	Type	ECTS	Hours					Lecturers
<b>149-0001-00L</b>	<b>Transport Planning - Theory and Models</b> W Only for CAS/DAS in Transport Engineering and MAS in Future Transport Systems	<b>W</b>	<b>4 credits</b>	<b>3G</b>					

149-0001-00 G	Verkehr und Verkehrsplanung - Theoretische Ansätze und Modelle <i>Blockkurs</i> <i>Vorlesung: 09:00 - 13:00 Uhr</i> <i>Übungen: 14:00 - 17:00 Uhr</i>	35s hrs	18.10.- 09-17 20.10. 16.12.- 09-17 17.12.	HIT F11.1 HIT F11.1	<b>K. W. Axhausen</b> , M. Friedrich
<b>149-0002-00L</b>	<b>Traffic Engineering</b> <i>Only for CAS/DAS in Transport Engineering and MAS in Future Transport Systems</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>	
149-0002-00 G	Verkehrssteuerung <i>Blockkurs</i> <i>Vorlesung: 09:00 - 13:00 Uhr</i> <i>Übungen: 14:00 - 17:00 Uhr</i>	35s hrs	21.10.- 09-17 22.10. 13.12.- 09-17 15.12.	HIT F11.1 HIT F11.1	<b>M. Fellendorf</b>

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>166-0490-00L</b>	<b>Master's Thesis</b> <i>Only for MAS in Future Transport Systems.</i>	<b>O</b>	<b>15 credits</b>	<b>27D</b>	
166-0490-00 D	Master-Arbeit			375s hrs	<b>M. A. Streicher-Porte</b>

## MAS in Future Transport Systems - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# MAS in Spatial Planning

Four-semester, part-time MAS programme.

Start of the next course: Autumn Semester 2021

## ► Lectures and Seminars

Number	Title	Type	ECTS	Hours	Lecturers
<b>115-0500-00L</b>	<b>Preliminary Course: Introduction to Swiss Spatial Planning</b> <i>Only for MAS, DAS and CAS in Spatial Planning</i>	<b>O</b>	<b>3 credits</b>	<b>3G</b>	
115-0500-00 G	Vorkurs: Einführung in die Raumplanung <i>Datum: 23.08. - 27.08.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			40s hrs	<b>D. Jerjen, A. Schneider</b>
<b>115-0500-01L</b>	<b>Introduction to the Programme and Study Project 1</b> <i>Only for MAS in Spatial Planning.</i>	<b>W</b>	<b>2 credits</b>	<b>1G</b>	
115-0500-01 G	Einführung in das Programm und Studienprojekt 1 <i>Datum: 06.09. - 10.09.2019</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1 HIL</i>			20s hrs	<b>M. Nollert, J. Van Wezemael</b>
<b>115-0501-00L</b>	<b>Lecture Week 01: Spatial Planning: Tasks and Methods</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	<b>W</b>	<b>2 credits</b>	<b>1G</b>	
115-0501-00 G	Präsenzwoche 01: Raumplanung: Aufgaben und Methoden <i>Datum: 11. – 15.10.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	<b>M. Nollert</b>
<b>115-0502-00L</b>	<b>Lecture Week 02: Urban Planning and Urban Design I</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	<b>W</b>	<b>2 credits</b>	<b>1G</b>	
115-0502-00 G	Präsenzwoche 02: Stadtplanung und Städtebau I <i>Datum: 08. – 12.11.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	<b>S. Kretz, C. Salewski</b>
<b>115-0503-00L</b>	<b>Lecture Week 03: Landscape Architecture</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	<b>W</b>	<b>2 credits</b>	<b>1G</b>	
115-0503-00 G	Präsenzwoche 03: Landschaftsarchitektur <i>Datum: 06. – 10.12.2021</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	<b>G. Vogt</b>
<b>115-0504-00L</b>	<b>Lecture Week 04: Landscape and Environmental Planning</b> <i>Only for MAS, DAS and CAS in Spatial Planning.</i>	<b>W</b>	<b>2 credits</b>	<b>1G</b>	
115-0504-00 G	Präsenzwoche 04: Landschafts- und Umweltplanung <i>Datum: 10. – 14.01.2022</i> <i>Gemäss separatem Programm</i> <i>Raum HIL H 35.1</i>			20s hrs	<b>A. Grêt-Regamey, U. Wissen Hayek</b>

## ► Projects and Individual Work

Number	Title	Type	ECTS	Hours	Lecturers
<b>115-0701-00L</b>	<b>Study Project 1 (Part 1)</b> <i>Only for MAS in Spatial Planning.</i>	<b>O</b>	<b>0 credits</b>	<b>10U</b>	
	<i>Project 1 takes 2 semesters, continuation in the following spring semester, taking part 2 is obligatory.</i>				
115-0701-00 U	Studienprojekt 1 (Teil 1) <i>Gemäss separatem Programm</i> <i>Räume HIL H 35.1 und HIL H 40.9</i>			142s hrs	<b>M. Nollert, F. Argast, O. Hagen, A. Näf-Clasen, M. Sandtner</b>

## MAS in Spatial Planning - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.



# MAS in Sustainable Water Resources

The Master of Advanced Studies in Sustainable Water Resources is a 12 month full time postgraduate diploma programme. The focus of the programme is on issues of sustainability and water resources in Latin America, with special attention given to the impacts of development and climate change on water resources. The programme combines multidisciplinary coursework with high level research. Sample research topics include: water quality, water quantity, water for agriculture, water for the environment, adaptation to climate change, and integrated water resource management. Language: English. Credit hours: 66 ECTS. For further information please visit: <http://www.mas-swr.ethz.ch/>

## ► Core Courses

Foundation courses: 12 credits have to be achieved.

Number	Title	Type	ECTS	Hours				Lecturers
<b>118-0101-00L</b>	<b>Water Resources Seminars</b> <i>Number of participants limited to 16.</i>	<b>O</b>	<b>3 credits</b>	<b>3S</b>				
118-0101-00 S	Water Resources Seminars <i>Permission from lecturers required for all students Attendance is compulsory.</i>			3 hrs	Tue	09-12	HIL D60.1	<b>D. Molnar</b> , P. Burlando
<b>118-0114-00L</b>	<b>Nature-Based Solutions and Blue Green Infrastructure</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
118-0114-00 G	Nature-Based Solutions and Blue Green Infrastructure			2 hrs	Thu	16-18	HIL E5	<b>D. Molnar</b> , P. M. Bach

## ► Foundation Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>102-0287-00L</b>	<b>River Basin Erosion</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
102-0287-00 G	River Basin Erosion <i>Remark: Title until HS20: Fluvial Systems.</i>			2 hrs	Thu	14-16	HIL E6	<b>P. Molnar</b>
<b>101-0267-01L</b>	<b>Numerical Hydraulics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0267-01 G	Numerical Hydraulics			2 hrs	Mon	14-16	HIL E6	<b>M. Holzner</b>
<b>102-0227-00L</b>	<b>Systems Analysis and Mathematical Modeling in Urban Water Management</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
102-0227-00 G	Systems Analysis and Mathematical Modeling in Urban Water Management			4 hrs	Fri	08-10 10-12	HIL E9 HIL E15.2	<b>E. Morgenroth</b> , M. Maurer
<b>102-0217-00L</b>	<b>Process Engineering Ia</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
102-0217-00 G	Process Engineering Ia <i>More information can be found at <a href="http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html">http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html</a> Voluntary questions and support for excercises on Mondays 9-10, room: HCI D4 or Tuesdays 13-14, room HCI D4.</i>			2 hrs	Wed	08-10	HIL E9	<b>E. Morgenroth</b>
<b>102-0617-00L</b>	<b>Basics and Principles of Radar Remote Sensing for Environmental Applications</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
102-0617-00 G	Basics and Principles of Radar Remote Sensing for Environmental Applications			2 hrs	Wed	10-12	HIL E9	<b>I. Hajnsek</b>
<b>102-0215-00L</b>	<b>Urban Water Management II</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>				
102-0215-00 G	Siedlungswasserwirtschaft II			2 hrs	Tue	10-12	HIL E8	<b>M. Maurer</b> , P. Stauer
<b>701-1253-00L</b>	<b>Analysis of Climate and Weather Data</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-1253-00 G	Analysis of Climate and Weather Data <i>Does not take place this semester.</i>			2 hrs				<b>C. Frei</b>
<b>651-4031-00L</b>	<b>Geographic Information Systems</b> <i>Number of participants limited to 60.</i>	<b>W</b>	<b>3 credits</b>	<b>4G</b>				
651-4031-00 G	Geographic Information Systems			4 hrs	Wed/2	08-12	HG E26.1 HG E26.3	<b>A. Baltensweiler</b> , M. Hägeli-Golay
<b>102-0468-10L</b>	<b>Watershed Modelling</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
102-0468-10 G	Watershed Modelling <i>Remark: New course replacing 102-0237-00 Hydrology II (until HS19) and 102-0468-00 Watershed Modeling (until FS20).</i>			4 hrs	Mon Wed	16-18 12-14	HIL E8 HIL E8	<b>P. Molnar</b>

## ► Elective Courses

Electives: 6 credits has to be achieved.

Number	Title	Type	ECTS	Hours				Lecturers
401-6215-00L	Using R for Data Analysis and Graphics (Part I)	W	1.5 credits	1G				
401-6215-00 G	Using R for Data Analysis and Graphics (Part I)			14s hrs	Tue/1	14-16	CAB G11	M. Mächler
651-4077-00L	Quantification and Modeling of the Cryosphere: Dynamic Processes (University of Zurich) <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO815</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	3 credits	1V				

651-4077-00 V	Quantification and Modeling of the Cryosphere: Dynamic Processes (University of Zurich) <i>**Course at University of Zurich**</i>			1 hrs					University lecturers
701-1341-00L	Water Resources and Drinking Water	W	3 credits	2G					
701-1341-00 G	Water Resources and Drinking Water <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	08-10	CAB G11		S. Hug, M. Berg, F. Hammes, U. von Gunten
651-4101-00L	Physics of Glaciers	W	3 credits	3G					
651-4101-00 G	Physics of Glaciers			3 hrs	Mon	12-15	ML E12		M. Lüthi, F. T. Walter, M. Werder
701-1631-00L	Foundations of Ecosystem Management	W	5 credits	3G					
701-1631-00 G	Foundations of Ecosystem Management			3 hrs	Thu	10-13	CHN G46 HG E41 HG E33.1		J. Ghazoul, C. Garcia, J. Garcia Ulloa, A. Giger Dray
701-0535-00L	Environmental Soil Physics/Vadose Zone Hydrology	W	3 credits	2V+1U					
701-0535-00 V	Environmental Soil Physics/Vadose Zone Hydrology			2 hrs	Wed	16-18	CHN E46		A. Carminati, P. U. Lehmann Grunder
701-0535-00 U	Environmental Soil Physics/Vadose Zone Hydrology			1 hrs	Wed	18-19	CHN E46		A. Carminati, P. U. Lehmann Grunder
401-0649-00L	Applied Statistical Regression	W	5 credits	2V+1U					
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon	08-10	HG E1.2		M. Dettling
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>			1 hrs	Mon/2w	10-12	HG E1.2		M. Dettling
701-1551-00L	Sustainability Assessment <i>Number of participants limited to 35.</i>  <i>Waiting list will be deleted October 1st, 2021.</i>  <i>No enrollment possible after October 1st, 2021.</i>	W	3 credits	2G					
701-1551-00 G	Sustainability Assessment			2 hrs	Fri	10-12	CHN G42		P. Krütli, D. Nef
701-1644-00L	Mountain Forest Hydrology	W	5 credits	3G					
701-1644-00 G	Mountain Forest Hydrology <i>In addition two field trips with data collection</i>			3 hrs	Wed	09-12	ETZ E7		J. W. Kirchner
701-1251-00L	Land-Climate Dynamics <i>Number of participants limited to 36. Priority is given to the target groups: - Master Environmental Science, - Master Atmospheric and Climate Science and - PhD D-USYS until September 20th, 2021. Waiting list will be deleted September 27th, 2021.</i>	W	3 credits	2G					
701-1251-00 G	Land-Climate Dynamics			2 hrs	Tue 05.10.	14-16 14-16	CHN E42 HG E19		S. I. Seneviratne, R. Padrón Flasher
401-6217-00L	Using R for Data Analysis and Graphics (Part II)	W	1.5 credits	1G					
401-6217-00 G	Using R for Data Analysis and Graphics (Part II)			14s hrs	Tue/2	14-16	CAB G11		M. Mächler
► Master's Thesis									
Number	Title	Type	ECTS	Hours	Lecturers				
118-0121-00L	Master's Thesis <i>Only for MAS in Sustainable Water Resources.</i>	O	24 credits	51D					
118-0121-00 D	Master's Thesis			720s hrs	by appt.	Lecturers			
MAS in Sustainable Water Resources - Key for Type									
O	Compulsory			E-	Recommended, not eligible for credits				
W+	Eligible for credits and recommended			Z	Courses outside the curriculum				
W	Eligible for credits			Dr	Suitable for doctorate				

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# MAS in Urban and Territorial Design

## ► Design Studio and Postproduction

Number	Title	Type	ECTS	Hours	Lecturers
078-0100-00L	<b>Core Design and Research Studio I (EPFL)</b> <i>Only for MAS in Urban and Territorial Design</i>	O	16 credits	17G	
078-0100-00 G	Core Design and Research Studio I (EPFL) <i>**Course at EPFL**</i>			240s hrs	external organisers
078-0101-00L	<b>Postproduction I (EPFL)</b> <i>Only for MAS in Urban and Territorial Design</i>	O	2 credits	2G	
078-0101-00 G	Postproduction I (EPFL) <i>**Course at EPFL**</i>			30s hrs	external organisers

## ► Interdisciplinary Courses

Number	Title	Type	ECTS	Hours	Lecturers
078-0200-00L	<b>City, Habitat and Mobility (EPFL)</b> <i>Only for MAS in Urban and Territorial Design</i>	O	3 credits	3G	
078-0200-00 G	City, Habitat and Mobility (EPFL) <i>**Course at EPFL**</i>			45s hrs	external organisers
078-0201-00L	<b>Building Design in the Circular Economy (EPFL)</b> <i>Only for MAS in Urban and Territorial Design</i>	O	3 credits	3G	
078-0201-00 G	Building Design in the Circular Economy (EPFL) <i>**Course at EPFL**</i>			45s hrs	external organisers
078-0202-00L	<b>Urban Hydrology (EPFL)</b> <i>Only for MAS in Urban and Territorial Design</i>	O	2 credits	2G	
078-0202-00 G	Urban Hydrology (EPFL) <i>**Course at EPFL**</i>			30s hrs	external organisers

## ► Urban Theory Sessions

Number	Title	Type	ECTS	Hours	Lecturers
078-0300-00L	<b>Histories of Environment (EPFL)</b> <i>Only for MAS in Urban and Territorial Design</i>	O	2 credits	2G	
078-0300-00 G	Histories of Environment (EPFL) <i>**Course at EPFL**</i>			30s hrs	external organisers
078-0301-00L	<b>Systemic Thinking in the Age of Transition (EPFL)</b> <i>Only for MAS in Urban and Territorial Design</i>	O	2 credits	2G	
078-0301-00 G	Systemic Thinking in the Age of Transition (EPFL) <i>**Course at EPFL**</i>			30s hrs	external organisers

## ► Electives

### MAS in Urban and Territorial Design - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# MAS Mediation in Peace Processes

## ► Modules

Number	Title	Type	ECTS	Hours	Lecturers
<b>868-0001-00L</b>	<b>Module 1: Mediation in Context</b> <i>Only for MAS Mediation in Peace Processes.</i>	<b>O</b>	<b>10 credits</b>	<b>9G</b>	
868-0001-00 G	Module 1: Mediation in Context <i>Block course</i>			120s hrs 08.11.- 09-18 26.11. HG E23 HG F26.1	L.-E. Cederman, to be announced
<b>868-0004-00L</b>	<b>Module 4: Mediation Process Design</b> <i>Only for MAS Mediation in Peace Processes.</i>	<b>O</b>	<b>10 credits</b>	<b>9G</b>	
868-0004-00 G	Module 4: Mediation Process Design <i>Does not take place this semester. Block course</i>			120s hrs	<b>A. Wenger</b>
<b>868-0006-00L</b>	<b>Module 6: Mediation Processes</b> <i>Only for MAS Mediation in Peace Processes.</i>	<b>O</b>	<b>6 credits</b>	<b>9G</b>	
868-0006-00 G	Module 6: Mediation Processes <i>Block course</i>			120s hrs 27.09.- 09-17 15.10. HG F26.1 HG F26.3	to be announced
<i>This course will be offered in the Autumn Semester 2021 as an exception.</i>					

### MAS Mediation in Peace Processes - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Mechanical Engineering Bachelor

## ► 1. Semester

### ►► First Year Examinations: Compulsory Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0261-G0L</b>	<b>Analysis I</b>	<b>O</b>	<b>8 credits</b>	<b>5V+3U</b>				
401-0261-00 V	Analysis I <i>Vorlesung</i> <i>Mo 8-10 (alternierend mit Schnellübungen), im HG F1 mit Videoübertragung ins HG F3.</i> <i>Mi 8-10 im ETA F 5 mit Videoübertragung ins HG E 3</i> <i>Fr 8-10 im ETA F 5 mit Videoübertragung ins ETF E 1</i>			5 hrs	Mon/2w	08-10	HG F1 HG F3 ETA F5 HG E3 ETA F5 ETF E1	<b>A. Steiger</b>
401-0261-00 U	Analysis I <i>Groups are selected in myStudies.</i> <i>Die Übungen beginnen in der zweiten Semesterwoche.</i> <i>Schnellübungen Mo 8-10 (alternierend mit der Vorlesung).</i> <i>Fr 10-12 oder Fr 12-14 gemäss Gruppeneinteilung.</i>  <i>Zusätzlich wird das Study Center angeboten: Mittwochs 18-20 Uhr ab der 3. Semesterwoche im HG E 1.2, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>			3 hrs	Mon/2w	08-10	CAB G51 CHN E46 CHN F46 HG D3.2 HG D5.2 HG D7.1 IFW A32.1 LFW B1 LFW C5 NO C6 RZ F21 CHN D46 CHN F42 ETZ F91 ETZ H91 HG G26.1 IFW A32.1 IFW C33 LEE C104 LEE D101 LFW E13 NO C6 CHN D46 CHN F42 ETZ F91 ETZ H91 HG G26.1 IFW A32.1 IFW C33 LEE C104 LEE D101 LFW E13 NO C6	<b>A. Steiger</b>
					Fri	10-12		
						12-14		
<b>401-0171-00L</b>	<b>Linear Algebra I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
401-0171-00 V	Lineare Algebra I <i>Groups are selected in myStudies.</i> <i>Di 10-12 im ETA F 5 mit Videoübertragung im ETF E 1</i>			2 hrs	Tue	10-12	ETA F5 ETF E1	<b>N. Hungerbühler</b>
401-0171-00 U	Lineare Algebra I <i>Groups are selected in myStudies.</i> <i>Ab der ERSTEN Semesterwoche:</i> <i>Fr 10-11 bzw. Fr 12-13 oder Fr 13-14 gemäss Gruppeneinteilung (entsprechend der Gruppeneinteilung für die Übungen in Analysis I: Fr 12-14 bzw. Fr 10-12).</i> <i>In der ersten Semesterwoche findet am 24.09.2021 in den regulären Übungsstunden für alle Studierenden eine Einführung in MATLAB statt (für die Übungsgruppen G-01B und G-02B finden die Übungen vom 24.09. im Raum CAB G 59 statt, ab 01.10. im Raum CAB G 52).</i>  <i>Zusätzlich wird das Study Center angeboten: Mittwochs 18-20 Uhr ab der 3. Semesterwoche im HG E 1.2, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>			1 hrs	Fri	10-11	CAB G52 CHN D48 HG G26.3 IFW A34 IFW C31 LEE D105 ML F34 ML J34.1 ML J34.3 ML J37.1 NO C44 CAB G52 CHN D48 CHN E42 ML F34 ML H41.1 CAB G52 CAB G56 CHN D48 CHN E42 ML F34 ML H41.1 CAB G59 CAB G59	<b>N. Hungerbühler</b>
						12-13		
						13-14		
					24.09.	12-13 13-14		
<b>151-0501-00L</b>	<b>Mechanics 1: Kinematics and Statics</b>	<b>O</b>	<b>5 credits</b>	<b>3V+2U</b>				
151-0501-00 V	Mechanik 1: Kinematik und Statik <i>Vorlesung:</i> <i>Mo ETA F 5 mit Videoübertragung ins ETF E 1 und HG E 5.</i> <i>Di ETA F 5 mit Videoübertragung ins ETF E 1 und HG E 3</i>  <i>In der ersten Semesterwoche fällt das Kolloquium aus und wird durch eine Doppelstunde Vorlesung Di 14-16 ersetzt.</i>			3 hrs	Mon	10-12	ETA F5 ETF E1 HG E5 ETA F5 ETF E1 HG E3 ETA F5 ETF E1 HG E3	<b>E. Mazza</b>
					Tue	14-15		
					21.09.	14-16		

151-0501-00 U	Mechanik 1: Kinematik und Statik <i>Groups are selected in myStudies. Die Übungen finden ab der 2. Semesterwoche statt.</i>  <i>Mi 14-16 für Bauingenieurwissenschaften Do 08-10 für Maschineningenieurwissenschaften</i>  <i>Zusätzlich wird das Study Center angeboten: Donnerstag 18-20 ab der 3. Semesterwoche im HG E 1.2, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>	2 hrs	Wed	14-16	CHN E42 HG D5.1 HG G26.5 LFW E13 NO E11 NO E39 CAB G51 CHN D44 CHN D48 ETZ E7 ETZ E9 ETZ F91 ETZ G91 ETZ H91 ETZ J91 ETZ K91 LFO C13 LFW B1 LFW B3 LFW C11 LFW C4 LFW C5	E. Mazza	
151-0711-00L	Engineering Materials and Production I	O	4 credits	4G			
151-0711-00 G	Werkstoffe und Fertigung I <i>Groups are selected in myStudies. Vorlesung: Mo 14-15 im HG E 7 mit Videoübertragung ins HG E 5, Mi 10-12 im ETA F 5. Die erste Vorlesung findet am Mittwoch, den 22.09.2021, statt.</i>  <i>Die Übungen beginnen in der zweiten Semesterwoche: Mo 16-18 und Mi 14-16 (in Gruppen, 14-täglich, nach Vereinbarung) / Di 12-13 findet eine italienisch Sprechstunde statt (Ort: HG E 33.1).</i>  <i>Zusätzlich wird das Study Center angeboten: Donnerstag 18-20 ab der 3. Semesterwoche im HG E 1.2, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>	4 hrs	Mon	14-15	HG E5 HG E7 HG E33.5 HG E33.5 HG G26.5 HG G26.5 ML F34 ML F34 ML F40 ML F40 ML H41.1 ML H41.1 ETA F5 HG E22 HG E22 HG E33.3 HG E33.3 HG E33.5 HG E33.5 LFV E41 LFV E41 LFW B1 LFW B1 ML F34 ML F34 ML F38 ML F38 ML H41.1 ML H41.1 NO C6 NO C6	K. Wegener	
151-0301-00L	Machine Elements	O	2 credits	1V+1U			
151-0301-00 V	Maschinenelemente <i>Di 08–09 Uhr im ETA F 5 mit Videoübertragung im ETF E 1</i>		1 hrs	Tue	08-09	ETA F5 ETF E1	M. Meboldt, Q. Lohmeyer
151-0301-00 U	Maschinenelemente <i>Di 09–10 Uhr im ETA F 5 mit Videoübertragung im ETF E 1</i>		1 hrs	Tue	09-10	ETA F5 ETF E1	M. Meboldt, Q. Lohmeyer
529-0010-00L	Chemistry	O	3 credits	2V+1U			
529-0010-00 V	Chemie <i>Do 10-12 im ETA F 5 mit Videoübertragung im ETF E 1</i>  <i>Die Vorlesung findet auf Deutsch und auf Englisch statt,</i>		2 hrs	Thu	10-12	ETA F5 ETF E1	A. de Mello, C. Mondelli, D. J. Norris, S. Stavrakis
529-0010-00 U	Chemie <i>Groups are selected in myStudies. Bitte melden Sie sich für die Übungsgruppen auf mystudies an. Eine englischsprachige Gruppe wird für die Studierenden des Masterstudiengangs in Integrated Building Systems angeboten (HIL E 5). Übungslektionen beginnen nach der zweiten Vorlesung.</i>  <i>Please subscribe to the exercise groups in mystudies. An English- speaking group is offered to the students of the Master course in Integrated Building Systems (HIL E 5). Problem classes start after Lecture 2.</i>  <i>Zusätzlich wird das Study Center angeboten: Mittwochs 18-20 Uhr ab der 3. Semesterwoche im HG E1.2, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>		1 hrs	Fri	10-12 14-15	HIL E5 CAB G59 CHN E46 CHN F42 CLA E4 IFW C33 LEE C114 LEE D101 LFV E41 LFW B3 LFW C1 LFW C5 ML H41.1 ML J34.1	F. Jenny

## ►► Additional First Year Courses





151-0503-00 V	Dynamics <i>The lectures will start in the 2nd week of the Semester. The Monday lectures are held in HG F 7 with video transmission to HG F 5. The Wednesday lectures are held in ML D 28 with video transmission to HCI G 7 (ETH Hönggerberg)</i>	4 hrs	Mon	14-16	HG F5 HG F7 HCI G7 ML D28	<b>D. Kochmann</b>
151-0503-00 U	Dynamics <i>Groups are selected in myStudies. The exercises will start in the 2nd week of the Semester: - Thursday 8-10 for Mechanical Engineering BSc - Friday 14-16 for Civil Engineering BSc</i>  <i>Zusätzlich wird das Study Center angeboten: Montags 18-20 Uhr ab der 3. Semesterwoche im HG E 1.1, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>	2 hrs	Thu	08-10	CAB G59 CHN E42 CHN F46 CHN G42 CHN G46 HG E21 HG E22 HG E33.1 HG E33.3 HG E33.5 HG G26.3 HG G26.5 LFW E13 ML H41.1 ML J34.1 ML J34.3 ON LINE ON LINE HIT F31.2 HIT H51 HIT J52 HIT J53 HIT K51 ON LINE	<b>D. Kochmann</b>
151-0303-00L	<b>Dimensioning I</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>		
151-0303-00 G	Dimensionieren I <i>Groups are selected in myStudies. Vorlesung: Dienstag 8-10 im ML D28 mit Videoübertragung ins ML E12. Übung: Dienstag 10-11 oder 11-12 gemäss Gruppeneinteilung.</i>  <i>Zusätzlich wird das Study Center angeboten: Mittwoch 18-20 ab der 3. Semesterwoche im HG E 1.1, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>	3 hrs	Tue	08-10  10-11  11-12	ML D28 ML E12 CHN D42 CHN D44 CHN D46 CHN D48 HG D3.1 HG D3.3 HG D5.1 CHN D42 CHN D44 CHN D46 CHN D48 HG D3.1 HG D3.3 HG D5.1 LFW C4	<b>E. Mazza, D. Mohr</b>
151-0051-00L	<b>Thermodynamics I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-0051-00 V	Thermodynamik I <i>Vorlesung im ML D 28 mit Videoübertragung ins ML E 12.</i>	2 hrs	Thu	10-12	ML D28 ML E12	<b>A. Bardow, C. Müller</b>
151-0051-00 U	Thermodynamik I <i>Groups are selected in myStudies. Die Übungen beginnen ab der dritten Vorlesungswoche.</i>  <i>Zusätzlich wird das Study Center angeboten: Mittwoch 18-20 ab der 3. Semesterwoche im HG E 1.1, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>	2 hrs	Fri	08-10	CHN C14 CHN E46 CHN G42 ETZ E6 ETZ E8 LFW B1 ML F38 ML F39 ML H41.1	<b>A. Bardow, C. Müller</b>
151-0591-00L	<b>Control Systems I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-0591-00 V	Regelungstechnik I <i>Vorlesung im HG E 7 mit Videoübertragung ins HG E 5.</i>	2 hrs	Fri	10-12	HG E5 HG E7	<b>L. Guzzella</b>
151-0591-00 U	Regelungstechnik I <i>Groups are selected in myStudies. Die Übungen starten in der 2. Woche des Semesters.</i>  <i>Zusätzlich wird das Study Center angeboten: ab der 3. Semesterwoche, Montags, 18-20 Uhr im HG E 1.1 und Mittwochs, 18-20 Uhr im HG E 1.1, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>	2 hrs	Fri	14-16	CHN D44 CHN D46 CHN F46 CHN G42 ETZ E9 ETZ J91 ETZ K91 HG D3.2 HG D5.1 HG E21 HG G26.3 IFW B42 LEE D105 LFW C4 ML F34 ML F39 ML J34.3 ML J37.1 NO E11 NO E39	<b>L. Guzzella</b>

## ▶▶▶ Examination Block 2

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0033-10L</b>	<b>Physics I</b>	<b>O</b>	<b>6 credits</b>	<b>4V+2U</b>					
402-0033-10 V	Physik I <i>Die Vorlesung beginnt am Dienstag der ersten Semesterwoche.</i>			4 hrs	Tue	14-16	HPH G1		<b>L. Degiorgi</b>
					Wed	10-12	HPH G1		
402-0033-10 U	Physik I <i>Die Übungen beginnen in der zweiten Semesterwoche.</i>			2 hrs	Tue	16-18	HCI D6		<b>L. Degiorgi</b>
							HCI E8		
							HCI F8		
							HCI J8		
							HCP E47.1		
							HCP E47.2		
							HCP E47.3		
							HCP E47.4		
							HIL B21		
							HIL C10.2		
							HIL D60.1		
							HIL E10.1		
							HIL E5		
							HIT J52		
							HIT K51		
							HPK D24.2		
							HPL D32		
							HPL D34		

## ►► Engineering Tools

*The Engineering Tools courses are for MAVT Bachelor's degree students only.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0021-00L</b>	<b>Engineering Tool: Introduction to MATLAB</b>	<b>W+</b>	<b>0.4 credits</b>	<b>1K</b>					
	<i>The Engineering Tools courses are for MAVT Bachelor's degree students only.</i>								
	<i>Note: previous course title in German until HS18 "Ingenieur-Tool: Numerisches Rechnen".</i>								
151-0021-00 K	Ingenieur-Tool: Einführung in MATLAB <i>Blockkurs in der ersten Semesterwoche.</i>			12s hrs	22.09.	14-18	HG F1		<b>B. Berisha</b>
					23.09.	14-18	HG E7		
					24.09.	14-18	HG E7		
<b>252-0863-00L</b>	<b>Engineering Tool: Advanced Programming with C++</b>	<b>W+</b>	<b>0.4 credits</b>	<b>1K</b>					
	<i>All Engineering Tool courses are for MAVT-Bachelor students only.</i>								
252-0863-00 K	Engineering Tool: Advanced Programming with C++ <i>Block course (three half-day afternoon course) during the first week of the Semester.</i>			12s hrs	22.09.	14-18	ON LINE		<b>F. O. Friedrich Wicker</b>
					23.09.	14-18	ON LINE		
					24.09.	14-18	ON LINE		
	<i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>								

## ► 5. Semester

### ►► Compulsory Courses Examination Block 3

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0261-00L</b>	<b>Thermodynamics III</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
151-0261-00 V	Thermodynamics III <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	08-10	NO C60		<b>R. S. Abhari, A. Steinfeld</b>
151-0261-00 U	Thermodynamics III <i>Groups are selected in myStudies. Online exercise: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercise from there.</i>			1 hrs	Tue	10-11	CAB G61 HG D1.1 IFW A36		<b>R. S. Abhari, A. Steinfeld</b>
	<i>Please note: The room HG D 1.1 is not available on 28.09.2021</i>								
<b>151-0103-00L</b>	<b>Fluid Dynamics II</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
151-0103-00 V	Fluidodynamik II <i>In der 1. und 2. Semesterwoche findet am Dienstag 11-12 h jeweils eine Vorlesung, anstelle von Übungen, statt (Ort: ETF C 1).</i>			2 hrs	Mon	10-12	HG E7		<b>P. Jenny</b>
					21.09.	11-12	ETF C1		
					28.09.	11-12	ETF C1		
151-0103-00 U	Fluidodynamik II <i>Groups are selected in myStudies. Die Übungen beginnen in der 3. Semesterwoche.</i>			1 hrs	Tue	11-12	CAB G61 HG D1.1 IFW A36		<b>P. Jenny</b>

### ►► Electives

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0573-00L</b>	<b>System Modeling</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0573-00 V	System Modeling			2 hrs	Wed	08-10	HG E7		<b>L. Guzzella</b>

151-0573-00 U	System Modeling <i>Groups are selected in myStudies. Die Übungen finden ab der zweiten Semesterwoche statt. Di 13-14, Di 17-18 oder Do 8-9 gemäss Gruppeneinteilung.</i>	1 hrs	Tue	13-14	LFV E41 LFW C5 CHN G42 HG D7.1 HG E1.1 LFV E41	<b>L. Guzzella</b>
<b>151-0575-01L</b>	<b>Signals and Systems</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-0575-01 V	Signals and Systems <i>The lecture will start in the 2nd week of the Semester.</i>	2 hrs	Thu	14-16	ETF C1	<b>A. Carron</b>
151-0575-01 U	Signals and Systems <i>The exercise will start in the 3rd week of the Semester.</i>	2 hrs	Thu	16-18	ETF C1	<b>A. Carron</b>
<b>151-0917-00L</b>	<b>Mass Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-0917-00 V	Mass Transfer	2 hrs	Wed	10-12	ML H44	<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>
151-0917-00 U	Mass Transfer <i>The exercise will start in the 2nd week of the Semester.</i>	2 hrs	Tue	14-16	HG E1.1	<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>
<b>151-0973-00L</b>	<b>Introduction into Process Engineering I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-0973-00 V	Einführung in die Verfahrenstechnik I <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>	2 hrs	Mon	08-10	ML F36	<b>C. Müller</b>
151-0973-00 U	Einführung in die Verfahrenstechnik I <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>	2 hrs	Mon	14-16	ML F36	<b>F. Donat</b>
<b>151-3207-00L</b>	<b>Lightweight</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-3207-00 V	Leichtbau <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>	2 hrs	Mon	14-16	HG G3	<b>P. Ermanni</b>
151-3207-00 U	Leichtbau <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>	2 hrs	Thu	10-12	HG E5	<b>P. Ermanni</b>
<b>227-0076-00L</b>	<b>Electrical Engineering II</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
227-0076-00 V	Elektrotechnik II	2 hrs	Wed	10-12	HG E5	<b>C. Studer</b>
227-0076-00 U	Elektrotechnik II <i>Groups are selected in myStudies.</i>	2 hrs	Wed	16-18	CLA E4 HG D3.1 HG D5.1 CAB G52 LEE C104 LEE C114 LEE D101 LEE D105	<b>C. Studer</b>
<b>363-0511-00L</b>	<b>Managerial Economics</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>		
363-0511-00 V	Managerial Economics <i>Not for MSc students belonging to D-MTEC!</i>	3 hrs	Tue Wed	18-19 08-10	HG F5 HG G3	<b>V. Lohmann, P. Egger, M. Köthenbürger</b>
<b>401-0435-00L</b>	<b>Computational Methods for Engineering Applications</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
401-0435-00 V	Computational Methods for Engineering Applications <i>Lecture starts in the second week of the semester.</i>	2 hrs	Tue	16-18	HG E5	<b>R. Käppeli, M. Petrella</b>
401-0435-00 U	Computational Methods for Engineering Applications <i>Groups are selected in myStudies. Exercises start in the second week of the semester.</i>	2 hrs	Thu	10-12	CLA E4 HG E33.1 LFW B3	<b>R. Käppeli, M. Petrella</b>
<b>401-0603-00L</b>	<b>Stochastics (Probability and Statistics)</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
401-0603-00 V	Stochastik	2 hrs	Mon	16-18	ETA F5	<b>P. Cheridito</b>
401-0603-00 U	Stochastik <i>Groups are selected in myStudies. Mo 18-19 oder Di 12-13 gemäss Gruppeneinteilung (für Studiengang Materialwissenschaft geht nur Mo 18-19)</i>	1 hrs	Mon	18-19	HG D5.2 HG E33.1 HG G26.5 LFW C5 ML F36	<b>P. Cheridito</b>

## ►► Focus Project

### ►►► Focus Projects in Mechatronics

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-0073-10L</b>	<b>Drone-Crane</b> <i>This course is part of a one-year course. The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.</i>  <i>For MAVT BSc and ITET BSc only.</i>  <i>Prerequisites for the focus projects: a. Basis examination successfully passed b. Block 1 and 2 successfully passed</i>  <i>For enrollment, please contact the D-MAVT Student Administration.</i>	<b>W</b>	<b>0 credits</b>	<b>15A</b>	
151-0073-10 A	Drone-Crane ■ <i>Permission from lecturers required for all students</i>			210s hrs by appt.	<b>R. Siegwart</b>
<b>151-0073-20L</b>	<b>AITHON</b> <i>This course is part of a one-year course.</i>	<b>W</b>	<b>0 credits</b>	<b>15A</b>	

The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.

For MAVT BSc and ITET BSc only.

Prerequisites for the focus projects:  
a. Basis examination successfully passed  
b. Block 1 and 2 successfully passed

For enrollment, please contact the D-MAVT Student Administration.

151-0073-20 A	AITHON ■		210s hrs	by appt.	<b>R. Siegwart</b>
---------------	----------	--	----------	----------	--------------------

Permission from lecturers required for all students

<b>151-0073-30L</b>	<b>Guidance, Navigation and Control for Recovery of a Sounding Rocket</b>	<b>W</b>	<b>0 credits</b>	<b>15A</b>	
---------------------	---------------------------------------------------------------------------	----------	------------------	------------	--

This course is part of a one-year course.  
The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.

For MAVT BSc and ITET BSc only.

Prerequisites for the focus projects:  
a. Basis examination successfully passed  
b. Block 1 and 2 successfully passed

For enrollment, please contact the D-MAVT Student Administration.

151-0073-30 A	Guidance, Navigation and Control for Recovery of a Sounding Rocket ■		210s hrs	by appt.	<b>M. Zeilinger</b>
---------------	----------------------------------------------------------------------	--	----------	----------	---------------------

Permission from lecturers required for all students

<b>151-0073-40L</b>	<b>SpaceCrab – Space Climbing Robot</b>	<b>W</b>	<b>0 credits</b>	<b>15A</b>	
---------------------	-----------------------------------------	----------	------------------	------------	--

This course is part of a one-year course.  
The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.

For MAVT BSc and ITET BSc only.

Prerequisites for the focus projects:  
a. Basis examination successfully passed  
b. Block 1 and 2 successfully passed

For enrollment, please contact the D-MAVT Student Administration.

151-0073-40 A	SpaceCrab – Space Climbing Robot ■		210s hrs	by appt.	<b>M. Hutter</b>
---------------	------------------------------------	--	----------	----------	------------------

Permission from lecturers required for all students

<b>151-0073-50L</b>	<b>RAPTOR - Rapid Aerial Pick-and-Transfer of Objects by Robots</b>	<b>W</b>	<b>0 credits</b>	<b>15A</b>	
---------------------	---------------------------------------------------------------------	----------	------------------	------------	--

This course is part of a one-year course.  
The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.

For MAVT BSc and ITET BSc only.

Prerequisites for the focus projects:  
a. Basis examination successfully passed  
b. Block 1 and 2 successfully passed

For enrollment, please contact the D-MAVT Student Administration.

151-0073-50 A	RAPTOR - Rapid Aerial Pick-and-Transfer of Objects by Robots ■		210s hrs	by appt.	<b>R. Katzschmann</b>
---------------	----------------------------------------------------------------	--	----------	----------	-----------------------

Permission from lecturers required for all students

## ►►► Focus Projects in Manufacturing

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

<b>151-0075-10L</b>	<b>E-Sling RE</b>	<b>W</b>	<b>0 credits</b>	<b>15A</b>	
---------------------	-------------------	----------	------------------	------------	--

This course is part of a one-year course.  
The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.

For MAVT BSc and ITET BSc only.

Prerequisites for the focus projects:  
a. Basis examination successfully passed  
b. Block 1 and 2 successfully passed

For enrollment, please contact the D-MAVT Student Administration.

151-0075-10 A	E-Sling RE ■		210s hrs	by appt.	<b>K. Wegener</b>
---------------	--------------	--	----------	----------	-------------------

Permission from lecturers required for all students

151-0075-20L	<b>Formula Student</b> <i>This course is part of a one-year course. The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.</i>  <i>For MAVT BSc and ITET BSc only.</i>  <i>Prerequisites for the focus projects:</i> a. Basis examination successfully passed b. Block 1 and 2 successfully passed  <i>For enrollment, please contact the D-MAVT Student Administration.</i>	W	0 credits	15A		
151-0075-20 A	Formula Student ■ Permission from lecturers required for all students			210s hrs	by appt.	D. Mohr
151-0075-30L	<b>Paris Hybrid</b> <i>This course is part of a one-year course. The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.</i>  <i>For MAVT BSc and ITET BSc only.</i>  <i>Prerequisites for the focus projects:</i> a. Basis examination successfully passed b. Block 1 and 2 successfully passed  <i>For enrollment, please contact the D-MAVT Student Administration.</i>	W	0 credits	15A		
151-0075-30 A	Paris Hybrid ■ Permission from lecturers required for all students			210s hrs	by appt.	A. Kunz

### ►►► Focus Projects in Energy, Flows and Processes

Number	Title	Type	ECTS	Hours	Lecturers
151-0076-10L	<b>SOWA (Solar Water) – Drinking Water from Saline and Brackish Water Using Solar Energy</b> <i>This course is part of a one-year course. The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.</i>  <i>For MAVT BSc and ITET BSc only.</i>  <i>Prerequisites for the focus projects:</i> <i>a. Basis examination successfully passed</i> <i>b. Block 1 and 2 successfully passed</i>  <i>For enrollment, please contact the D-MAVT Student Administration.</i>	W	0 credits	15A	
151-0076-10 A	SOWA (Solar Water) – Drinking Water from Saline and Brackish Water Using Solar Energy ■ <i>Permission from lecturers required for all students</i>			210s hrs by appt.	M. Mazzotti

### ►►► Focus Projects in Biomedical Engineering

Number	Title	Type	ECTS	Hours	Lecturers
151-0077-10L	<b>Hydrocephalus SmartShunt</b> <i>This course is part of a one-year course. The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus-Project in FS2022.</i>  <i>For MAVT BSc and ITET BSc only.</i>  <i>Prerequisites for the focus projects:</i> <i>a. Basis examination successfully passed</i> <i>b. Block 1 and 2 successfully passed</i>  <i>For enrollment, please contact the D-MAVT Student Administration.</i>	W	0 credits	15A	
151-0077-10 A	Hydrocephalus SmartShunt			210s hrs	M. Meboldt

### ►►► Focus Projects in Design, Mechanics and Materials

Number	Title	Type	ECTS	Hours	Lecturers
151-0079-10L	<b>HRC3D - High Resolution 3D Printing of Continuous Fiber Reinforced Composites</b> <i>This course is part of a one-year course. The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.</i>	W	0 credits	15A	

For MAVT BSc and ITET BSc only.

Prerequisites for the focus projects:  
a. Basis examination successfully passed  
b. Block 1 and 2 successfully passed

For enrollment, please contact the D-MAVT Student Administration.

151-0079-10 A HRC3D - High Resolution 3D Printing of Continuous Fiber Reinforced Composites ■ 210s hrs by appt. P. Ermanni  
Permission from lecturers required for all students

**151-0079-20L Hybrid Rocket Engine 21** W 0 credits 15A  
This course is part of a one-year course.  
The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.

For MAVT BSc and ITET BSc only.

Prerequisites for the focus projects:  
a. Basis examination successfully passed  
b. Block 1 and 2 successfully passed

For enrollment, please contact the D-MAVT Student Administration.

151-0079-20 A Hybrid Rocket Engine 21 ■ 210s hrs by appt. L. Guzzella  
Permission from lecturers required for all students

**151-0079-30L Swissloop** W 0 credits 15A  
This course is part of a one-year course.  
The 14 credit points will be issued at the end of FS2022 with new enrolling for the same Focus Project in FS2022.

For MAVT BSc and ITET BSc only.

Prerequisites for the focus projects:  
a. Basis examination successfully passed  
b. Block 1 and 2 successfully passed

For enrollment, please contact the D-MAVT Student Administration.

151-0079-30 A Swissloop ■ 210s hrs by appt. D. Kochmann  
Permission from lecturers required for all students

## ►►► Courses Eligible for Focus Projects

Number	Title	Type	ECTS	Hours				Lecturers
151-0079-99L	Vacuum Transport Seminar: Insights into Hyperloop Research	E-	0 credits	1S				
151-0079-99 S	Vacuum Transport Seminar: Insights into Hyperloop Research			7s hrs	Mon/2w	18-19	LEE E101	D. Kochmann
151-0761-00L	Practice Course Product Development	W	1 credit	1G				
	Only students for focus projects. 2 up to 3 students per focus project.							
151-0761-00 G	Praxiskurs Produktentwicklung Diverse Termine gemäss Gruppeneinteilung. Weitere Informationen über die Lehrveranstaltung erfolgen durch die Dozierenden.			1 hrs	Thu	08-10	HG E5	M. Meboldt, C. R. Dietzsch, C. Schorno, M. Schütz
151-0763-00L	Practice Course to Focus Projects on CAD and CAE Based on Siemens NX - Max. 3 Students by one Focus Team allowed - Course is only useful and recommended for students using CAD and CAE Tools for their duty within the project itself - Feel free to contact us, if there are open questions: martin.schuetz@mavt.ethz.ch	W	3 credits	3G				
151-0763-00 G	Praxiskurs zur Fokusprojekten mit Schwerpunkt CAD und CAE mit Siemens NX Definitive Termine werden zu Beginn des Kurses bekannt gegeben; Weitere Informationen über Aufteilung der Gruppen für die Übung erfolgen durch die Dozierenden. Der Kurs beginnt in der zweiten Semesterwoche.			36s hrs	Fri	08-17	HG K30.1	J.-L. Emery, M. Schütz
	Die teilnehmenden Studierenden müssen sich im Rahmen des Fokus-Projektes aktiv mit den Themen Konstruktion, CAD, Auslegung und Simulation beschäftigen.							

## ►► Focus Specialization

### ►►► Energy, Flows and Processes

Focus Coordinator: Prof. Christoph Müller

In order to achieve the required 20 credit points for the Focus Specialization Energy, Flows and Processes you need to choose at least 2 core courses (W+) (HS/FS) and at least 2 of the elective courses (HS/FS), according to the presentation of the Focus Specialisation (see

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0123-00L</b>	<b>Experimental Methods for Engineers</b>	<b>W+</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0123-00 V	Experimental Methods for Engineers <i>Lecture starts in the first week.</i>			2 hrs	Thu	14-16	ML F39	<b>T. Rösigen</b> , B. Schuermans, M. Tibbitt
151-0123-00 U	Experimental Methods for Engineers <i>Exercises start in the first week.</i>			2 hrs	Thu	08-10	ML F39	<b>T. Rösigen</b> , B. Schuermans, M. Tibbitt
<b>151-0293-00L</b>	<b>Combustion and Reactive Processes in Energy and Materials Technology</b>	<b>W+</b>	<b>4 credits</b>	<b>2V+1U+2A</b>				
151-0293-00 V	Combustion and Reactive Processes in Energy and Materials Technology			2 hrs	Thu	10-12	CAB G61	<b>N. Noiray</b> , F. Ernst, C. E. Frouzakis
151-0293-00 U	Combustion and Reactive Processes in Energy and Materials Technology			1 hrs	Mon	17-18	ML F36	<b>N. Noiray</b> , F. Ernst, C. E. Frouzakis
151-0293-00 A	Combustion and Reactive Processes in Energy and Materials Technology			30s hrs	by appt.			<b>N. Noiray</b> , F. Ernst, C. E. Frouzakis
<b>151-0221-00L</b>	<b>Introduction to Modeling and Optimization of Sustainable Energy Systems</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0221-00 G	Introduction to Modeling and Optimization of Sustainable Energy Systems <i>The course starts in the second week.</i>			3 hrs	Wed Thu	16-18 13-14	HG D7.1 ML F36	<b>G. Sansavini</b> , A. Bardow
<b>151-0109-00L</b>	<b>Turbulent Flows</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0109-00 V	Turbulent Flows			2 hrs	Thu	08-10	ML E12	<b>P. Jenny</b>
151-0109-00 U	Turbulent Flows			1 hrs	Thu	13-14	HG D7.1	<b>P. Jenny</b>
<b>151-0913-00L</b>	<b>Introduction to Photonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0913-00 V	Introduction to Photonics			2 hrs	Thu	10-12	HG E22	<b>R. Quidant</b> , J. Ortega Arroyo
151-0913-00 U	Introduction to Photonics			2 hrs	Thu	14-16	HG E22	<b>R. Quidant</b> , J. Ortega Arroyo
<b>151-0917-00L</b>	<b>Mass Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0917-00 V	Mass Transfer			2 hrs	Wed	10-12	ML H44	<b>S. E. Pratsinis</b> , V. Mavrantzas, C.-J. Shih
151-0917-00 U	Mass Transfer <i>The exercise will start in the 2nd week of the Semester.</i>			2 hrs	Tue	14-16	HG E1.1	<b>S. E. Pratsinis</b> , V. Mavrantzas, C.-J. Shih
<b>151-0973-00L</b>	<b>Introduction into Process Engineering I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0973-00 V	Einführung in die Verfahrenstechnik I <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			2 hrs	Mon	08-10	ML F36	<b>C. Müller</b>
151-0973-00 U	Einführung in die Verfahrenstechnik I <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			2 hrs	Mon	14-16	ML F36	<b>F. Donat</b>

## ►►► Mechatronics and Robotics

Focus Coordinator: Prof. Marco Hutter

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0509-00L</b>	<b>Microscale Acoustofluidics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0509-00 G	Microscale Acoustofluidics <i>The course will take place on 29.09.21 in ML F 36.</i>			3 hrs	Wed 29.09.	13-16 13-16	LFO C13 ML F36	<b>J. Dual</b>
<b>151-0575-01L</b>	<b>Signals and Systems</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0575-01 V	Signals and Systems <i>The lecture will start in the 2nd week of the Semester.</i>			2 hrs	Thu	14-16	ETF C1	<b>A. Carron</b>
151-0575-01 U	Signals and Systems <i>The exercise will start in the 3rd week of the Semester.</i>			2 hrs	Thu	16-18	ETF C1	<b>A. Carron</b>
<b>151-0601-00L</b>	<b>Theory of Robotics and Mechatronics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	08-10 10-11	HG D1.2 ML E12	<b>P. Korba, S. Stoeter</b>
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60	<b>B. Nelson, N. Shamsudhin</b>
<b>151-0621-00L</b>	<b>Microsystems I: Process Technology and Integration</b>	<b>W</b>	<b>6 credits</b>	<b>3V+3U</b>				
151-0621-00 V	Microsystems I: Process Technology and Integration <i>The lecture starts in the second week of the Semester.</i>			3 hrs	Thu	13-16	HG E5	<b>C. Hierold, M. Haluska</b>
151-0621-00 U	Microsystems I: Process Technology and Integration <i>The exercise starts in the third week of the Semester.</i>			3 hrs	Tue	16-19	HG E1.2	<b>M. Haluska</b>
<b>151-0640-00L</b>	<b>Studies on Mechatronics</b>	<b>W</b>	<b>5 credits</b>	<b>11A</b>				
<i>The supervising professors can be selected in myStudies during registration of the course. For exceptions please contact the focus coordinator and info@mavt.ethz.ch. This course is not available to incoming exchange students.</i>								

151-0640-00 A	Studies on Mechatronics ■ <i>The registration of the course may only take place after direct contact with the selected professor. Language: English or German, depending on the supervisor.</i>	150s hrs	by appt.					Supervisors
<b>151-0913-00L</b>	<b>Introduction to Photonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0913-00 V	Introduction to Photonics			2 hrs	Thu	10-12	HG E22	<b>R. Quidant</b> , J. Ortega Arroyo
151-0913-00 U	Introduction to Photonics			2 hrs	Thu	14-16	HG E22	<b>R. Quidant</b> , J. Ortega Arroyo
<b>227-0113-00L</b>	<b>Power Electronics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0113-00 G	Leistungselektronik			4 hrs	Thu	14-18	HG E1.2	<b>J. W. Kolar</b>
<b>227-0124-00L</b>	<b>Embedded Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0124-00 G	Embedded Systems <i>Exercises in groups.</i>			4 hrs	Mon Wed Fri	14-16 16-18 16-18	ETF C1 ETZ D61.1 ETZ D96.1 ETF E1 ETZ D61.1 ETZ D96.1	<b>L. Thiele</b> , M. Magno
<b>227-0517-10L</b>	<b>Fundamentals of Electric Machines</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0517-10 G	Fundamentals of Electric Machines			4 hrs	Thu	08-10 10-12	HG D5.2 HG D5.2	<b>D. Bortis</b>
<b>376-1504-00L</b>	<b>Physical Human Robot Interaction (pHRI)</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
376-1504-00 V	Physical Human-Robot Interaction (pHRI) ■ <i>To apply for the course, please prepare a letter of motivation (max. one A4 page). Please include in the letter which study program and semester you are in. Please describe why you would like to attend the course and what you expect to learn during the course. The letter should be sent to Jan Dittli (jan.dittli@hest.ethz.ch) by 05.09.2021.</i>			2 hrs	Thu	08-10	NO E11	<b>O. Lamercy</b>
376-1504-00 U	Physical Human-Robot Interaction (pHRI) ■			2 hrs	Thu	10-12	NO E11	<b>O. Lamercy</b>

## ►►► Microsystems and Nanoscale Engineering

Focus Coordinator: Prof. Christofer Hierold

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0621-00L</b>	<b>Microsystems I: Process Technology and Integration</b>	<b>W+</b>	<b>6 credits</b>	<b>3V+3U</b>				
151-0621-00 V	Microsystems I: Process Technology and Integration <i>The lecture starts in the second week of the Semester.</i>			3 hrs	Thu	13-16	HG E5	<b>C. Hierold</b> , M. Haluska
151-0621-00 U	Microsystems I: Process Technology and Integration <i>The exercise starts in the third week of the Semester.</i>			3 hrs	Tue	16-19	HG E1.2	<b>M. Haluska</b>
<b>151-0509-00L</b>	<b>Microscale Acoustofluidics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0509-00 G	Microscale Acoustofluidics <i>The course will take place on 29.09.21 in ML F 36.</i>			3 hrs	Wed 29.09.	13-16 13-16	LFO C13 ML F36	<b>J. Dual</b>
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60	<b>B. Nelson</b> , N. Shamsudhin
<b>151-0643-00L</b>	<b>Studies on Micro and Nano Systems</b>	<b>W</b>	<b>5 credits</b>	<b>11A</b>				
151-0643-00 A	Studies on Micro and Nano Systems <i>This course is not available to incoming exchange students. The registration of the course may only take place after direct contact with the selected professor. Language: English or German, depending on the supervisor.</i>			150s hrs	by appt.			Supervisors
<b>151-0902-00L</b>	<b>Micro- and Nanoparticle Technology</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
151-0902-00 V	Micro- and Nanoparticle Technology <i>Number of participants is limited to 20. Additional ones could be enrolled by permission of the lecturer.</i>			2 hrs	Fri	10-12	ML F40	<b>S. E. Pratsinis</b> , G. Kelesidis, K. Wegner
151-0902-00 U	Micro- and Nanoparticle Technology <i>Permission from lecturers required for all students</i>			2 hrs	Wed	14-16	ML F40	<b>S. E. Pratsinis</b> , G. Kelesidis, V. Mavrantzas
<b>151-0911-00L</b>	<b>Introduction to Plasmonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0911-00 V	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>			2 hrs				<b>D. J. Norris</b>
151-0911-00 U	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>			1 hrs				<b>D. J. Norris</b>
<b>151-0913-00L</b>	<b>Introduction to Photonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0913-00 V	Introduction to Photonics			2 hrs	Thu	10-12	HG E22	<b>R. Quidant</b> , J. Ortega Arroyo
151-0913-00 U	Introduction to Photonics			2 hrs	Thu	14-16	HG E22	<b>R. Quidant</b> , J. Ortega Arroyo
<b>151-0135-00L</b>	<b>Additional Case for the Focus Specialization</b>	<b>W</b>	<b>1 credit</b>	<b>2A</b>				
	<i>Exclusive for D-MAVT Bachelor's students in Focus Specialization. For enrollment, please contact the D-MAVT Student Administration.</i>							



## ▶▶▶ Manufacturing Science

Focus Coordinator: Prof. Konrad Wegener

To achieve the required 20 credit points for the focus specialization you need to pass all 3 compulsory courses (HS/FS). The other 8 credit points can be achieved from the elective courses.

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0705-00L</b>	<b>Manufacturing I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0705-00 V	Fertigungstechnik I			2 hrs	Thu	10-12	ML H41.1	<b>K. Wegener</b> , M. Boccadoro
151-0705-00 U	Fertigungstechnik I <i>Die Übungen beginnen in der zweiten Semesterwoche.</i>			2 hrs	Thu	12-14	ML H41.1	<b>K. Wegener</b> , M. Boccadoro
<b>151-0733-00L</b>	<b>Forming Technology III - Forming Processes</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0733-00 V	Umformtechnik III - Umformtechnische Verfahren <i>Der Kurs wird zum letzten Mal im HS21 angeboten.</i>			2 hrs	Fri	08-10	HG G26.5	<b>P. Hora</b>
151-0733-00 U	Umformtechnik III - Umformtechnische Verfahren <i>Der Kurs wird zum letzten Mal im HS21 angeboten.</i>			2 hrs	Fri	10-12	HG G26.5	<b>P. Hora</b>
<b>151-0703-00L</b>	<b>Operational Simulation of Production Lines</b>	<b>W+</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0703-00 V	Betriebliche Simulation von Produktionsanlagen <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			2 hrs	Tue	10-12	CLA E4	<b>P. Acél</b>
151-0703-00 U	Betriebliche Simulation von Produktionsanlagen <i>Die Übungen beginnen in der dritten Semesterwoche und finden alle zwei Wochen statt, jeweils für zwei Stunden.</i>			1 hrs	Tue/2w	14-16	HG E26.1 HG K30.1	<b>P. Acél</b>
<b>151-0717-00L</b>	<b>Mechanical Production: Assembly, Joining and Coating Technology</b>	<b>W+</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0717-00 V	Mechanische Produktion: Montieren, Fügen, Beschichten <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			2 hrs	Tue	16-18	ML F34	<b>K. Wegener</b> , V. H. Derflinger, F. Durand, P. Jousset
151-0717-00 U	Mechanische Produktion: Montieren, Fügen, Beschichten <i>Die Übungsräume werden von den Dozierenden bekannt gegeben.</i>  <i>Zusatzvorlesungen externe Referenten:</i> <i>- Donnerstag, 30.09.2021, 14-16 Uhr (Ort:td)</i> <i>- Donnerstag, 11.11.2021, 14-16 Uhr (Ort:td)</i> <i>- Donnerstag, 18.11.2021, 14-16 Uhr (Ort:td)</i>			1 hrs	30.09.	14-16	ML J37.1	<b>K. Wegener</b> , V. H. Derflinger, F. Durand, P. Jousset
<b>151-0719-00L</b>	<b>Quality of Machine Tools - Dynamics and Metrology at Micro and Submicro Level</b>	<b>W+</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0719-00 V	Qualität von Werkzeugmaschinen - Dynamik, Mikro- und Submikrosesstechnik			2 hrs	Mon	10-12	ML H34.3	<b>A. Günther</b> , D. Spescha
151-0719-00 U	Qualität von Werkzeugmaschinen - Dynamik, Mikro- und Submikrosesstechnik			1 hrs	Wed	08-10	ML H34.3	<b>A. Günther</b> , D. Spescha
<b>151-0723-00L</b>	<b>Manufacturing of Electronic Devices</b>	<b>W+</b>	<b>4 credits</b>	<b>3G</b>				
151-0723-00 G	Manufacturing of Electronic Devices <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			3 hrs	Wed	14-17	LEE C114	<b>A. Kunz</b> , A. Guber, R.-D. Moryson, F. Reichert
<b>151-0731-00L</b>	<b>Basic Knowledge of Forming Technology</b> <i>Note: previous course title until HS19 "Forming Technology I - Basic Knowledge".</i>	<b>W+</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0731-00 V	Grundlage der Umformtechnik <i>Der Kurs wird zum letzten Mal im HS21 angeboten.</i>			2 hrs	Mon	08-10	CLA E4	<b>P. Hora</b>
151-0731-00 U	Grundlage der Umformtechnik <i>Der Kurs wird zum letzten Mal im HS21 angeboten.</i>			2 hrs	Mon	16-18	ML J34.3	<b>P. Hora</b>
<b>151-0833-00L</b>	<b>Applied Finite Element Analysis</b>	<b>W+</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0833-00 V	Applied Finite Element Analysis			2 hrs	Wed	10-12	ML F38	<b>B. Berisha</b> , N. Manopulo
151-0833-00 U	Applied Finite Element Analysis <i>The exercises will start in the 2nd week of the Semester.</i>			2 hrs	Wed	14-16	IFW A36	<b>B. Berisha</b>
<b>151-0725-00L</b>	<b>Exciting Leadership in a Thrilling Real Business World</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0725-00 G	Exciting Leadership in a Thrilling Real Business World			3 hrs	Wed	14-17	ETZ E9	<b>A. Halbleib</b>
<b>227-0113-00L</b>	<b>Power Electronics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0113-00 G	Leistungselektronik			4 hrs	Thu	14-18	HG E1.2	<b>J. W. Kolar</b>

## ▶▶▶ Engineering for Health

Focus Coordinator: Prof. Bradley Nelson

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0509-00L</b>	<b>Microscale Acoustofluidics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0509-00 G	Microscale Acoustofluidics <i>The course will take place on 29.09.21 in ML F 36.</i>			3 hrs	Wed 29.09.	13-16 13-16	LFO C13 ML F36	<b>J. Dual</b>
<b>151-0524-00L</b>	<b>Continuum Mechanics I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0524-00 V	Continuum Mechanics I			2 hrs	Fri	08-10	HG D5.2	<b>E. Mazza</b> , A. E. Ehret
151-0524-00 U	Continuum Mechanics I <i>Exercises start in the second week of the semester.</i>			1 hrs	Wed	12-13	HG E1.1	<b>E. Mazza</b> , A. E. Ehret
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				

151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>		3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60	<b>B. Nelson</b> , N. Shamsudhin
<b>151-0621-00L</b>	<b>Microsystems I: Process Technology and Integration</b>	<b>W</b>	<b>6 credits</b>	<b>3V+3U</b>			
151-0621-00 V	Microsystems I: Process Technology and Integration <i>The lecture starts in the second week of the Semester.</i>		3 hrs	Thu	13-16	HG E5	<b>C. Hierold</b> , M. Haluska
151-0621-00 U	Microsystems I: Process Technology and Integration <i>The exercise starts in the third week of the Semester.</i>		3 hrs	Tue	16-19	HG E1.2	<b>M. Haluska</b>
<b>151-8101-00L</b>	<b>International Engineering: from Hubris to Hope</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
151-8101-00 G	International Engineering: from Hubris to Hope		3 hrs	Thu	15-18	LEE D105	<b>E. Tilley</b> , M. Kalina
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>			
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>		5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7	<b>S. Kozerke</b> , K. P. Prüssmann
<b>227-0393-10L</b>	<b>Bioelectronics and Biosensors</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>			
227-0393-10 V	Bioelectronics and Biosensors		2 hrs	Fri	09-11	HG E1.2	<b>J. Vörös</b> , M. F. Yanik
227-0393-10 U	Bioelectronics and Biosensors		2 hrs	Fri	08-09 11-12	HG E1.2 HG E1.2	<b>M. F. Yanik</b> , J. Vörös
<b>376-0021-00L</b>	<b>Materials and Mechanics in Medicine</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
376-0021-00 G	Materials and Mechanics in Medicine <i>Groups are selected in myStudies. lecture: Di 14-16h exercises: Di 16-17h, start at the second week of the semester.  The lecturers will communicate the exact lesson times of the ONLINE-exercises.</i>		3 hrs	Tue	14-16 16-17	HG F1 CHN G42 ETZ E8 HG D7.1 ML H41.1 ON LINE	<b>M. Zenobi-Wong</b> , J. G. Snedeker
<b>376-0203-00L</b>	<b>Movement and Sport Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
376-0203-00 G	Bewegungs- und Sportbiomechanik <i>Die Vorlesungen und Übungen finden im HS21 grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.  Vorlesung: Fr 14-16 Übungen: Fr 16-17</i>		3 hrs	Fri	14-16 16-17	HCI J3 HCP E47.3 HIT F31.2 HIT F32 HIT H51 HIT J51 HIT J52 HIT J53 HIT K52	<b>B. Taylor</b> , R. List
<b>376-1504-00L</b>	<b>Physical Human Robot Interaction (pHRI)</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>			
376-1504-00 V	Physical Human-Robot Interaction (pHRI) ■ <i>To apply for the course, please prepare a letter of motivation (max. one A4 page). Please include in the letter which study program and semester you are in. Please describe why you would like to attend the course and what you expect to learn during the course. The letter should be sent to Jan Dittli (jan.dittli@hest.ethz.ch) by 05.09.2021.</i>		2 hrs	Thu	08-10	NO E11	<b>O. Lambercy</b>
376-1504-00 U	Physical Human-Robot Interaction (pHRI) ■		2 hrs	Thu	10-12	NO E11	<b>O. Lambercy</b>
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>			
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h</i>		3 hrs	Fri	09-12	HG G3	<b>K. Maniura</b> , M. Rottmar, M. Zenobi-Wong

## ►►► Management, Technology and Economics

Focus Coordinators: Prof. Stefano Brusoni D-MTEC and Dr. Bastian Bergmann D-MTEC

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0445-00L</b>	<b>Production and Operations Management</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>				
363-0445-00 G	Production and Operations Management <i>This course can be followed fully online and offers extracurricular opportunities for students who want to engage with the teaching staff in the classroom.</i>			2 hrs	Thu	14-16	CAB G11	<b>T. Netland</b>
<b>363-0445-02L</b>	<b>Production and Operations Management – Supplement Credit</b>	<b>W+</b>	<b>1 credit</b>	<b>1A</b>				
	<i>A parallel enrolment to the lecture 363-0445-00L Production and Operations Management is mandatory.</i>							
363-0445-02 A	Production and Operations Management – Supplement Credit <i>Does not take place this semester. Irregular lecture</i>			7s hrs				<b>T. Netland</b>
<b>363-0541-00L</b>	<b>Systems Dynamics and Complexity</b>	<b>W+</b>	<b>3 credits</b>	<b>3G</b>				
363-0541-00 G	Systems Dynamics and Complexity <i>Lecture: Thursday, 08-10 h Exercises: Tuesday, 12-13 h The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Tue Thu	12-13 08-10	HG D1.2 HG D1.2	<b>F. Schweitzer</b>
<b>363-0541-02L</b>	<b>Systems Dynamics and Complexity (Additional Cases)</b>	<b>W+</b>	<b>1 credit</b>					

Only for Mechanical Engineering BSc.									
363-0541-02 U	Systems Dynamics and Complexity (Additional Cases)		2s hrs						<b>G. Casiraghi</b>
<b>151-0733-00L</b>	<b>Forming Technology III - Forming Processes</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0733-00 V	Umformtechnik III - Umformtechnische Verfahren <i>Der Kurs wird zum letzten Mal im HS21 angeboten.</i>		2 hrs	Fri	08-10	HG G26.5			<b>P. Hora</b>
151-0733-00 U	Umformtechnik III - Umformtechnische Verfahren <i>Der Kurs wird zum letzten Mal im HS21 angeboten.</i>		2 hrs	Fri	10-12	HG G26.5			<b>P. Hora</b>
<b>351-0778-00L</b>	<b>Discovering Management</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
<i>Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercises) 351-0778-01.</i>									
351-0778-00 G	Discovering Management <i>Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>		3 hrs	Fri	08-11	HG E1.1			<b>B. Clarysse, S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe</b>
<b>351-0778-01L</b>	<b>Discovering Management (Exercises)</b>	<b>W</b>	<b>1 credit</b>	<b>1U</b>					
<i>Complementary exercises for the module Discovering Management.</i>									
<i>Prerequisite: Participation and successful completion of the module Discovering Management (351-0778-00L) is mandatory.</i>									
351-0778-01 U	Discovering Management (Exercises)		1 hrs	Fri	11-12	HG E1.1			<b>B. Clarysse, L. P. T. Vandeweghe</b>
<b>363-0387-00L</b>	<b>Corporate Sustainability</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0387-00 G	Corporate Sustainability <i>The course combines online learning elements and live sessions, some of which are recorded. Several course sessions require live attendance. Details are provided on the moodle course page.</i>		2 hrs	Wed/2	16-18	HG E21 HG E22 HG F3 ML E12			<b>V. Hoffmann, C. Bening-Bach, N. U. Blum, J. Meuer</b>
<b>363-0389-00L</b>	<b>Technology and Innovation Management</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0389-00 G	Technology and Innovation Management <i>The lecture takes place in classroom, online via zoom and recorded.</i>		2 hrs	Mon	14-16 27.09.	NO C60 HG D1.2			<b>S. Brusoni, A. Zeijen</b>
<b>363-0389-02L</b>	<b>Technology and Innovation Management (Additional Cases)</b>	<b>W</b>	<b>1 credit</b>	<b>1U</b>					
<i>Only for Mechanical Engineering BSc.</i>									
363-0389-02 U	Technology and Innovation Management (Additional Cases) <i>When: informal meetings will be set up between student and tutor to give feedback.</i>		10s hrs						<b>S. Brusoni</b>
<b>363-0565-00L</b>	<b>Principles of Macroeconomics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
363-0565-00 V	Principles of Macroeconomics <i>Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>		2 hrs	Tue	16-18	ETA F5 ETF E1			<b>J.-E. Sturm</b>
<b>363-0711-00L</b>	<b>Accounting for Managers</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
363-0711-00 V	Accounting for Managers <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>		2 hrs	Thu	10-12	HG F3			<b>J.-P. Chardonens</b>
<b>363-0790-00L</b>	<b>Technology Entrepreneurship</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
363-0790-00 V	Technology Entrepreneurship <i>The lecture takes place online via (livestreaming or) zoom and recorded. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Tue	18-20	HG E5			<b>F. Hacklin</b>
<b>363-1082-00L</b>	<b>Enabling Entrepreneurship: From Science to Startup</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
<i>Students should provide a brief overview (unto 1 page) of their business ideas that they would like to commercialise through the course. If they do not have an idea, they are required to provide a motivation letter stating why they would like to do this elective. If you are unsure about the readiness of your idea or technology to be converted into a startup, please drop me a line to schedule a call or meeting to discuss.</i>									
<i>The total number of students will be limited to 40. It is preferable that the students already form teams of at least two persons, where both the team-members would like to do the course. The names of the team-members should be provided together with the business idea or the motivation letter submitted by the students.</i>									

The students should submit the necessary information until September 13 and apply to [anilsethi@ethz.ch](mailto:anilsethi@ethz.ch)

363-1082-00 V	Enabling Entrepreneurship: From Science to Startup	2 hrs	Mon	16-18	HG E33.1	<b>A. Sethi</b>
<b>363-1109-00L</b>	<b>Introduction to Microeconomics</b> <i>GESS (Science in Perspective):</i> <i>This course is only for students enrolled in a Bachelor's degree programme.</i>  <i>Students enrolled in a Master's degree programme may attend "Principles of Microeconomics" (LE 363-0503-00L) instead.</i>  <i>Note for D-MAVT students: If you have already successfully completed "Principles of Microeconomics" (LE 363-0503-00L), then you will not be permitted to attend it again.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
363-1109-00 G	Einführung in die Mikroökonomie <i>Zusätzliche (freiwillige) Termine für Übungen zur Vorlesung werden zu Beginn der Vorlesung bekanntgegeben.</i>	2 hrs	Tue	10-12	HG E5	<b>M. Wörter, M. Beck</b>

## ►► Design, Mechanics and Materials

Focus Coordinator: Prof. Kristina Shea

In order to achieve the required 20 credit points for the Focus Specialization Design, Mechanics and Material you are free to choose any of the courses offered within the focus and are encouraged to select among those recommended. If you wish to take one of the Master level courses, you must get approval from the lecturer.

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0364-00L</b>	<b>Lightweight Structures Laboratory</b> <i>Number of participants limited to 24.</i>	<b>W+</b>	<b>4 credits</b>	<b>5A</b>				
151-0364-00 A	Strukturlabor <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			5 hrs	Thu	14-17	IFW A36	<b>M. Zogg, P. Ermanni</b>
<b>151-3207-00L</b>	<b>Lightweight</b>	<b>W+</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-3207-00 V	Leichtbau <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			2 hrs	Mon	14-16	HG G3	<b>P. Ermanni</b>
151-3207-00 U	Leichtbau <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			2 hrs	Thu	10-12	HG E5	<b>P. Ermanni</b>
<b>151-3213-00L</b>	<b>Integrative Ski Building Workshop</b> <i>Number of participants limited to 12.</i>	<b>W+</b>	<b>4 credits</b>	<b>9P</b>				
	<i>To apply, please send the following information to <a href="mailto:jchapuis@ethz.ch">jchapuis@ethz.ch</a> by 31.08.2021: Letter of Motivation (one page), CV, Transcript of Records.</i>							
151-3213-00 P	Integrative Ski Building Workshop ■ <i>Permission from lecturers required for all students</i> <i>Courses on Wednesdays at 14-18h starting in the second week of the semester.</i>			120s hrs	29.09. 06.10. 13.10.	14-18 14-18 14-18	IFW C35 IFW C35 IFW C35	<b>K. Shea</b>
<b>151-0509-00L</b>	<b>Microscale Acoustofluidics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0509-00 G	Microscale Acoustofluidics <i>The course will take place on 29.09.21 in ML F 36.</i>			3 hrs	Wed 29.09.	13-16 13-16	LFO C13 ML F36	<b>J. Dual</b>
<b>151-0524-00L</b>	<b>Continuum Mechanics I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0524-00 V	Continuum Mechanics I			2 hrs	Fri	08-10	HG D5.2	<b>E. Mazza, A. E. Ehret</b>
151-0524-00 U	Continuum Mechanics I <i>Exercises start in the second week of the semester.</i>			1 hrs	Wed	12-13	HG E1.1	<b>E. Mazza, A. E. Ehret</b>
<b>151-0544-00L</b>	<b>Metal Additive Manufacturing - Mechanical Integrity and Numerical Analysis</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0544-00 G	Metal Additive Manufacturing - Mechanical Integrity and Numerical Analysis			3 hrs	Mon	10-13	CAB G51	<b>E. Hosseini</b>
<b>151-3209-00L</b>	<b>Engineering Design Optimization</b> <i>Number of participants limited to 60.</i>	<b>W</b>	<b>4 credits</b>	<b>4G</b>				
151-3209-00 G	Engineering Design Optimization <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			4 hrs	Wed	08-12	ETZ E8	<b>K. Shea, T. Stankovic</b>
<b>327-0501-00L</b>	<b>Metals I</b> <i>Offered for the last time in HS 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>				
327-0501-00 V	Metalle I			2 hrs	Tue	09-11	HPT C103	<b>R. Spolenak</b>
327-0501-00 U	Metalle I			1 hrs	Tue	11-12	HPT C103	<b>R. Spolenak</b>
<b>327-1204-00L</b>	<b>Materials at Work I</b>	<b>W</b>	<b>4 credits</b>	<b>4S</b>				
327-1204-00 S	Materials at Work I			4 hrs	Thu	12-16	HCI H8.1	<b>R. Spolenak, E. Dufresne, R. Koopmans</b>

## ►► Engineering Tools

The Engineering Tools courses are for MAVT Bachelor's degree students only.

Number	Title	Type	ECTS	Hours	Lecturers		
<b>151-0015-10L</b>	<b>Engineering Tool: Experimental Modal Analysis</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 16.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>			
151-0015-10 K	Ingenieur-Tool: Experimentelle Modalanalyse <i>Der Blockkurs findet in der ersten Semesterwoche nachmittags ausserhalb der ETH (im PFA H 24, Technopark) statt: 21/22/23.09.2021 14 - 18 Uhr</i>			12s hrs	<b>D. Spescha</b>		
<b>151-0025-10L</b>	<b>Engineering Tool: Introduction to CAM and Motion Simulation</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 40.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>			
151-0025-10 K	Ingenieur-Tool: Einführung in CAM und Bewegungssimulation <i>Blockkurs in der ersten Semesterwoche.</i>			12s hrs	21.09. 14-18 22.09. 14-18 23.09. 14-18	HG E19 HG E27 HG E19 HG E27 HG E19 HG E27	<b>M. Schmid</b>
<b>151-0027-10L</b>	<b>Engineering Tool: Programming with LabView</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 16.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>			
151-0027-10 K	Ingenieur-Tool: Programmierung mit LabView <i>Blockkurs in der ersten Semesterwoche</i>  <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			12s hrs	21.09. 14-18 22.09. 14-18 23.09. 14-18	ML H34.1 ML H34.1 ML H34.1	<b>L. Prochazka</b>
<b>151-0030-10L</b>	<b>Engineering Tool: Modelling and Servo Axis Control of Machine Tool Manipulators</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 30.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>			
151-0030-10 K	Ingenieur-Tool: Modellbildung und Antriebsinbetriebnahme von WZM <i>Blockkurs in der ersten Semesterwoche</i> <i>Laptop mit Matlab (je 2 Studierende) erforderlich für die Übungen.</i> <i>Die genauen Unterrichtszeiten von ONLINE - Veranstaltungen werden von den Dozierenden kommuniziert.</i>			12s hrs	22.09. 14-18 23.09. 14-18 24.09. 14-18	ON LINE ON LINE ON LINE	<b>O. Zirn</b>
<b>151-0032-10L</b>	<b>Engineering Tool: Introduction to the Methods of Six Sigma Quality Control and Lean Production</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 36.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>			
151-0032-10 K	Ingenieur-Tool: Einführung in die Methoden von Six Sigma Quality Control und Lean Production <i>Blockkurs in der ersten Semesterwoche.</i>			12s hrs	21.09. 14-18 22.09. 14-18 23.09. 14-18	LFW B2 LFW B2 LFW B2	<b>B. G. Rüttimann</b>
<b>151-0047-00L</b>	<b>Engineering Tool: Agile Product Development</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 12.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>			
151-0047-00 K	Engineering Tool: Agile Product Development <i>Permission from lecturers required for all students</i> <i>Blockkurs in der ersten Semesterwoche.</i>			12s hrs	21.09. 14-18 22.09. 14-18 23.09. 14-18	PFA L51 PFA L51 PFA L51	<b>M. Meboldt</b>
<b>151-0057-10L</b>	<b>Engineering Tool: Systems Engineering for Project Work</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 60.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>			

151-0057-10 K	Ingenieur-Tool: Systems Engineering für Projekt- und Studienarbeiten <i>Blockkurs in der ersten Semesterwoche. Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>	12s hrs	21.09. 22.09. 23.09.	14-18 14-18 14-18	LEE E308 LEE E308 LEE E308	<b>R. Züst</b>
<b>151-0059-10L</b>	<b>Engineering Tool: CAD-Methodology and PDM-Technology in the Focus Project</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 25.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>		
151-0059-10 K	Ingenieur-Tool: CAD Methodik und PDM-Einsatz im Fokusprojekt <i>Blockkurs in der ersten Semesterwoche Die Teilnehmer sollten in Fokusprojekten involviert sein. Falls nicht, bitte bei den Dozierenden anfragen.</i>	12s hrs	21.09. 22.09. 23.09.	14-18 14-18 14-18	HG G1 HG G1 HG G1	<b>M. Schütz</b>
<b>151-0061-10L</b>	<b>Engineering Tool: Scientific Writing with LaTeX and Vector Graphics</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 80.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>		
151-0061-10 K	Ingenieur-Tool: Wissenschaftliches Arbeiten mit LaTeX und Vektorgraphiken <i>Blockkurs in der ersten Semesterwoche. Anwesenheitspflicht an allen drei Nachmittagen</i>	12s hrs	21.09. 22.09. 23.09.	14-18 14-18 14-18	HG D1.1 HG D1.1 HG D1.1	<b>O. Lamercy</b>
<b>151-0062-10L</b>	<b>Engineering Tool: Computer-Aided Design Methods</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 25.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>		
151-0062-10 K	Engineering Tool: Computer-Aided Design Methods <i>Block course in the first week of the semester.</i>  <i>Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from Zentrum campus.</i>	12s hrs	21.09. 22.09. 23.09.	14-18 14-18 14-18	HG E26.1 HG E26.1 HG E26.1	<b>T. Stankovic, K. Shea</b>
<b>151-0067-10L</b>	<b>Engineering Tool: Sketching and Visualization of Technical Concepts</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 20.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>		
151-0067-10 K	Ingenieur-Tool: Sketching und Visualisieren von technischen Konzepten <i>Blockkurs in der ersten Semesterwoche.</i>	12s hrs	21.09. 22.09. 23.09.	14-18 14-18 14-18	HG F26.3 HG F26.3 HG F26.3	<b>H. Stahl</b>
<b>151-0091-10L</b>	<b>Engineering Tool: Scientific Writing</b> <i>All Engineering Tools courses are for MAVT Bachelor's degree students only.</i>  <i>Number of participants limited to 60.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>		
151-0091-10 K	Ingenieur-Tool: Wissenschaftliches Schreiben <i>Blockkurs in der ersten Semesterwoche.</i>  <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>	12s hrs	22.09. 23.09. 24.09.	14-18 14-18 14-18	LEE E101 LEE E101 LEE E101	<b>M. Walter, T. Korner</b>
<b>252-0864-00L</b>	<b>Engineering Tool: Parallel and Concurrent Programming in C++</b> <i>All Engineering Tool courses are for MAVT-Bachelor students only.</i>	<b>W</b>	<b>0.4 credits</b>	<b>1K</b>		
252-0864-00 K	Engineering Tool: Parallel and Concurrent Programming in C++ <i>Block course (three half-day afternoon course) during the first week of the Semester.</i>  <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>	12s hrs	21.09. 22.09. 23.09.	14-18 14-18 14-18	ML H43 ML H43 ML H43	<b>M. Schwerhoff</b>

## ► Workshop Training

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-0003-00L</b>	<b>Workshop Training</b> <i>Placement of internships and request for</i>	<b>O</b>	<b>5 credits</b>		

► **Laboratory Practice**

Students attend at least 10 Laboratory Practices during the 4th and 5th semester. 4 of them must be Physics laboratories. All laboratory works are graded "pass" or "fail". After completion of 10 laboratory training units, 2 credit points will be issued.

Please register online at [www.mavt.ethz.ch/praktika](http://www.mavt.ethz.ch/praktika)

Number	Title	Type	ECTS	Hours	Lecturers
151-0029-10L	<b>Laboratory Practice</b> <i>Enrollment is only possible under <a href="http://www.mavt.ethz.ch/praktika">www.mavt.ethz.ch/praktika</a>. No registration required via myStudies.</i>	O	2 credits	4P	
151-0029-10 P	Labor-Praktika			4 hrs	Lecturers

► **GESS Science in Perspective**

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-MAVT.

► **Bachelor's Thesis**

Number	Title	Type	ECTS	Hours	Lecturers
151-0001-10L	<b>Bachelor's Thesis</b> <i>Supervisor for the Bachelor's Thesis:</i> - All D-MAVT professors ( <a href="https://www.mavt.ethz.ch/the-department/people/professors.html">https://www.mavt.ethz.ch/the-department/people/professors.html</a> ) - Professors in other departments who are accredited to D-MAVT ( <a href="https://www.mavt.ethz.ch/the-department/people/accredited-professors.html">https://www.mavt.ethz.ch/the-department/people/accredited-professors.html</a> ) - D-MAVT titular professors ( <a href="https://www.mavt.ethz.ch/the-department/people/titular-professors.html">https://www.mavt.ethz.ch/the-department/people/titular-professors.html</a> ). For enrollment with a titular professor, please contact the D-MAVT Student Administration.	W	14 credits	30D	
151-0001-10 D	Bachelor-Arbeit			420s hrs by appt.	Supervisors
151-3630-00L	<b>Bachelor's Thesis (Focus Spezialisierung Management, Technology and Economics)</b> <i>Supervisor for the Bachelor's Thesis: All D-MTEC professors (<a href="https://www.mtec.ethz.ch/people/professors.html">https://www.mtec.ethz.ch/people/professors.html</a>)</i>	W	14 credits	30D	
151-3630-00 D	Bachelor-Arbeit (Fokus-Vertiefung Management, Technology and Economics) <i>Permission from lecturers required for all students</i>			420s hrs by appt.	Professors

**Mechanical Engineering Bachelor - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Mechanical Engineering Master

## ► Core Courses

## ►► Energy, Flows and Processes

The courses listed in this category "Core Courses" are recommended. Alternative courses can be chosen in agreement with the tutor.

Number	Title	Type	ECTS	Hours				Lecturers	
<b>151-0105-00L</b>	<b>Quantitative Flow Visualization</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0105-00 G	Quantitative Flow Visualization <i>This course will be offered for the last time in Autumn Semester 2021.</i>			3 hrs	Tue	10-13	ML H41.1	<b>T. Rösgen</b>	
<b>151-0107-20L</b>	<b>High Performance Computing for Science and Engineering (HPCSE) I</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h Exercises: 14-16h</i>			4 hrs	Fri	12-14 14-16	ML H44 ML H44	<b>P. Koumoutsakos, S. M. Martin</b>	
<b>151-0109-00L</b>	<b>Turbulent Flows</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0109-00 V	Turbulent Flows			2 hrs	Thu	08-10	ML E12	<b>P. Jenny</b>	
151-0109-00 U	Turbulent Flows			1 hrs	Thu	13-14	HG D7.1	<b>P. Jenny</b>	
<b>151-0125-00L</b>	<b>Hydrodynamics and Cavitation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0125-00 G	Hydrodynamics and Cavitation			3 hrs	Mon	10-13	HG E21	<b>C. Bourquard, L. Biasiori-Poulanges</b>	
<b>151-0163-00L</b>	<b>Nuclear Energy Conversion</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0163-00 V	Nuclear Energy Conversion <i>Does not take place this semester.</i>			2 hrs					<b>A. Manera</b>
151-0163-00 U	Nuclear Energy Conversion <i>Does not take place this semester. Andere Übungstermine können abgesprochen werden.</i>			1 hrs					<b>A. Manera</b>
<b>151-0185-00L</b>	<b>Radiation Heat Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0185-00 V	Radiation Heat Transfer <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	10-12	ML F39	<b>A. Steinfeld, P. Pozivil</b>	
151-0185-00 U	Radiation Heat Transfer <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			1 hrs	Thu	12-13	ML F39	<b>A. Steinfeld, P. Pozivil</b>	
<b>151-0209-00L</b>	<b>Renewable Energy Technologies</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0209-00 G	Renewable Energy Technologies <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue	14-17	HG G5	<b>A. Steinfeld, E. I. M. Casati</b>	
<b>151-0213-00L</b>	<b>Fluid Dynamics with the Lattice Boltzmann Method</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0213-00 G	Fluid Dynamics with the Lattice Boltzmann Method <i>This course will be taught in a hybrid of online and face-to-face classroom formats; students will be informed who can attend the class on campus or should join the live streaming class.</i>			3 hrs	Wed	10-13	IFW B42	<b>I. Karlin</b>	
<b>151-0215-00L</b>	<b>Engineering Acoustics I</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0215-00 G	Engineering Acoustics I			3 hrs	Tue	09-12	HG E21	<b>N. Noiray, B. Van Damme</b>	
<b>151-0216-00L</b>	<b>Wind Energy</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0216-00 V	Wind Energy <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	14-16	HG D7.1	<b>N. Chokani</b>	
151-0216-00 U	Wind Energy <i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>			1 hrs	Thu	16-17	HG D7.1	<b>N. Chokani</b>	
<b>151-0227-00L</b>	<b>Basics of Air Transport (Aviation I)</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0227-00 G	Basics of Air Transport (Aviation I)			3 hrs	Wed	13-16	CAB G11	<b>P. Wild</b>	
<b>151-0251-00L</b>	<b>Principles, Efficiency Optimization and Future Applications of IC Engines</b> <i>Note: previous course title until HS20 "IC-Engines: Principles, Thermodynamic Optimization and Future Applications".</i>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0251-00 V	Principles, Efficiency Optimization and Future Applications of IC Engines			2 hrs	Tue	10-12	ML F34	<b>Y. M. Wright, P. Soltic</b>	
151-0251-00 U	Principles, Efficiency Optimization and Future Applications of IC Engines			1 hrs	Tue	12-13	ML F34	<b>Y. M. Wright, P. Soltic</b>	
<b>151-0368-00L</b>	<b>Aeroelasticity</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0368-00 V	Aeroelasticity			2 hrs	Thu	10-12	CAB G52	<b>M. Righi</b>	
151-0368-00 U	Aeroelasticity			1 hrs	Thu	12-13	CAB G52	<b>M. Righi</b>	



<b>151-0709-00L</b>	<b>Stochastic Methods for Engineers and Natural Scientists</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
151-0709-00 G	Stochastic Methods for Engineers and Natural Scientists <i>Lecture: 10-12</i> <i>Exercises: 12-14</i>			4 hrs	Wed	10-14	NO C6	<b>D. W. Meyer-Masseti</b>	
<b>151-0851-00L</b>	<b>Robot Dynamics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0851-00 V	Robot Dynamics ■			2 hrs	Tue	10-12	HG G5	<b>M. Hutter, R. Siegwart</b>	
151-0851-00 U	Robot Dynamics ■			2 hrs	Wed	08-10	HG G5 IFW A36	<b>M. Hutter, R. Siegwart</b>	
<b>151-0911-00L</b>	<b>Introduction to Plasmonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0911-00 V	Introduction to Plasmonics <i>Does not take place this semester.</i> <i>Will be offered again in HS22.</i>			2 hrs				<b>D. J. Norris</b>	
151-0911-00 U	Introduction to Plasmonics <i>Does not take place this semester.</i> <i>Will be offered again in HS22.</i>			1 hrs				<b>D. J. Norris</b>	
<b>151-0917-00L</b>	<b>Mass Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0917-00 V	Mass Transfer			2 hrs	Wed	10-12	ML H44	<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>	
151-0917-00 U	Mass Transfer <i>The exercise will start in the 2nd week of the Semester.</i>			2 hrs	Tue	14-16	HG E1.1	<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>	
<b>151-0927-00L</b>	<b>Rate-Controlled Separations in Fine Chemistry</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
151-0927-00 V	Rate-Controlled Separations in Fine Chemistry <i>The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.</i>			3 hrs	Thu	11-14	ML F34	<b>M. Mazzotti, V. Becattini</b>	
151-0927-00 U	Rate-Controlled Separations in Fine Chemistry <i>The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.</i>			1 hrs	Thu	14-15	ML F34	<b>M. Mazzotti, V. Becattini</b>	
<b>151-0951-00L</b>	<b>Process Design and Safety</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0951-00 V	Process Design and Safety			2 hrs	Tue	08-10	ML F34	<b>F. Trachsel, C. Hutter</b>	
151-0951-00 U	Process Design and Safety			1 hrs	Tue	13-14	ML F34	<b>F. Trachsel, C. Hutter</b>	
<b>151-1116-00L</b>	<b>Introduction to Aircraft and Car Aerodynamics</b> <i>Note: The previous course title in German until HS20 "Einführung in Flug- und Fahrzeugaerodynamik".</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-1116-00 G	Introduction to Aircraft and Car Aerodynamics			3 hrs	Thu 23.09.	16-19 16-19	ML F39 ML F36	<b>M. Immer, F. Schröder</b>	
<b>101-0187-00L</b>	<b>Structural Reliability and Risk Analysis</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0187-00 G	Structural Reliability and Risk Analysis			2 hrs	Fri	10-12	HCI J6	<b>S. Marelli</b>	
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	14-16	HG E5	<b>G. Fourny</b>	
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE	<b>G. Fourny</b>	
<b>636-0507-00L</b>	<b>Synthetic Biology II</b> <i>Students in the MSc Biotechnology (Programme Regulations 2017) may select Synthetic Biology II instead of the Research Project 1.</i>	<b>W</b>	<b>8 credits</b>	<b>4A</b>					
636-0507-00 A	Synthetic Biology II <i>Does not take place this semester.</i> <i>Permission from lecturers required for all students</i> <i>This course will (hopefully!) be offered again in Autumn Semester 2022!</i>			4 hrs	by appt.			<b>S. Panke, Y. Benenson, J. Stelling</b>	

## ►► Mechanics, Materials, Structures

The courses listed in this category "Core Courses" are recommended. Alternative courses can be chosen in agreement with the tutor.

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0107-20L</b>	<b>High Performance Computing for Science and Engineering (HPCSE) I</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>				
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h</i> <i>Exercises: 14-16h</i>			4 hrs	Fri	12-14 14-16	ML H44 ML H44	<b>P. Koumoutsakos, S. M. Martin</b>

<b>151-0215-00L</b>	<b>Engineering Acoustics I</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0215-00 G	Engineering Acoustics I			3 hrs	Tue	09-12	HG E21	<b>N. Noiray, B. Van Damme</b>	
<b>151-0317-00L</b>	<b>Visualization, Simulation and Interaction W - Virtual Reality II</b>	<b>4 credits</b>	<b>3G</b>						
151-0317-00 G	Visualization, Simulation and Interaction - Virtual Reality II <i>Additional lecture hour in consultation with the students.</i>			3 hrs	Mon	12-15	CLA E4	<b>A. Kunz</b>	
<b>151-0353-00L</b>	<b>Mechanics of Composite Materials</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0353-00 V	Mechanics of Composite Materials			2 hrs	Thu	09-11	ML F38	<b>P. Ermanni, G. Pappas, M. Sakovsky</b>	
151-0353-00 U	Mechanics of Composite Materials			1 hrs	Thu	11-12	ML F38	<b>P. Ermanni, G. Pappas, M. Sakovsky</b>	
<b>151-0368-00L</b>	<b>Aeroelasticity</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0368-00 V	Aeroelasticity			2 hrs	Thu	10-12	CAB G52	<b>M. Righi</b>	
151-0368-00 U	Aeroelasticity			1 hrs	Thu	12-13	CAB G52	<b>M. Righi</b>	
<b>151-0509-00L</b>	<b>Microscale Acoustofluidics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0509-00 G	Microscale Acoustofluidics <i>The course will take place on 29.09.21 in ML F 36.</i>			3 hrs	Wed 29.09.	13-16 13-16	LFO C13 ML F36	<b>J. Dual</b>	
<b>151-0524-00L</b>	<b>Continuum Mechanics I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0524-00 V	Continuum Mechanics I			2 hrs	Fri	08-10	HG D5.2	<b>E. Mazza, A. E. Ehret</b>	
151-0524-00 U	Continuum Mechanics I <i>Exercises start in the second week of the semester.</i>			1 hrs	Wed	12-13	HG E1.1	<b>E. Mazza, A. E. Ehret</b>	
<b>151-0525-00L</b>	<b>Dynamic Behavior of Materials</b> <i>Note: previous course title until HS19 "Wave Propagation in Solids".</i>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0525-00 V	Dynamic Behavior of Materials			2 hrs	Fri	10-12	HG D5.2	<b>D. Mohr, C. Roth, T. Tancogne-Dejean</b>	
151-0525-00 U	Dynamic Behavior of Materials			2 hrs	Fri	12-14	HG D5.2	<b>D. Mohr, C. Roth, T. Tancogne-Dejean</b>	
<b>151-0529-00L</b>	<b>Computational Mechanics II: Nonlinear FEA</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0529-00 V	Computational Mechanics II: Nonlinear FEA			2 hrs	Tue 28.09. 26.10.	10-12 10-12 10-12	LEE E101 ETZ E8 n/a	<b>L. De Lorenzis</b>	
151-0529-00 U	Computational Mechanics II: Nonlinear FEA			2 hrs	Tue	14-16	LEE E101	<b>L. De Lorenzis</b>	
<b>151-0532-00L</b>	<b>Nonlinear Dynamics and Chaos I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0532-00 V	Nonlinear Dynamics and Chaos I			2 hrs	Wed	10-12	LFW B1	<b>G. Haller</b>	
151-0532-00 U	Nonlinear Dynamics and Chaos I			2 hrs	Tue	16-18	ML F39	<b>G. Haller</b>	
<b>151-0535-00L</b>	<b>Optical Methods in Experimental Mechanics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0535-00 G	Optical Methods in Experimental Mechanics			3 hrs	Mon	14-17	ML J34.1	<b>E. Hack, E. Mavrona</b>	
<b>151-0550-00L</b>	<b>Adaptive Materials for Structural Applications</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0550-00 G	Adaptive Materials for Structural Applications <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue	09-12	LEE D105	<b>A. Bergamini</b>	
<b>151-0573-00L</b>	<b>System Modeling</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0573-00 V	System Modeling			2 hrs	Wed	08-10	HG E7	<b>L. Guzzella</b>	
151-0573-00 U	System Modeling <i>Groups are selected in myStudies. Die Übungen finden ab der zweiten Semesterwoche statt. Di 13-14, Di 17-18 oder Do 8-9 gemäss Gruppeneinteilung.</i>			1 hrs	Tue	13-14	LFV E41 LFW C5 CHN G42 HG D7.1 HG E1.1 LFV E41	<b>L. Guzzella</b>	
<b>151-0655-00L</b>	<b>Skills for Creativity and Innovation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0655-00 G	Skills for Creativity and Innovation			3 hrs	Fri	09-12	HG F26.5	<b>I. Goller, C. Kobe</b>	
<b>151-0703-00L</b>	<b>Operational Simulation of Production Lines</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0703-00 V	Betriebliche Simulation von Produktionsanlagen <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			2 hrs	Tue	10-12	CLA E4	<b>P. Acél</b>	
151-0703-00 U	Betriebliche Simulation von Produktionsanlagen <i>Die Übungen beginnen in der dritten Semesterwoche und finden alle zwei Wochen statt, jeweils für zwei Stunden.</i>			1 hrs	Tue/2w	14-16	HG E26.1 HG K30.1	<b>P. Acél</b>	
<b>151-0705-00L</b>	<b>Manufacturing I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0705-00 V	Fertigungstechnik I			2 hrs	Thu	10-12	ML H41.1	<b>K. Wegener, M. Boccadoro</b>	
151-0705-00 U	Fertigungstechnik I <i>Die Übungen beginnen in der zweiten Semesterwoche.</i>			2 hrs	Thu	12-14	ML H41.1	<b>K. Wegener, M. Boccadoro</b>	
<b>151-0717-00L</b>	<b>Mechanical Production: Assembly, Joining and Coating Technology</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0717-00 V	Mechanische Produktion: Montieren, Fügen, Beschichten <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>			2 hrs	Tue	16-18	ML F34	<b>K. Wegener, V. H. Derflinger, F. Durand, P. Jousset</b>	

151-0717-00 U	Mechanische Produktion: Montieren, Fügen, Beschichten <i>Die Übungsräume werden von den Dozierenden bekannt gegeben.</i>  <i>Zusatzvorlesungen externe Referenten:</i> - Donnerstag, 30.09.2021, 14-16 Uhr (Ort: tbd) - Donnerstag, 11.11.2021, 14-16 Uhr (Ort: tbd) - Donnerstag, 18.11.2021, 14-16 Uhr (Ort: tbd)	1 hrs	30.09.	14-16	ML J37.1	<b>K. Wegener</b> , V. H. Derflinger, F. Durand, P. Jousset
<b>151-0719-00L</b>	<b>Quality of Machine Tools - Dynamics and Metrology at Micro and Submicro Level</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
151-0719-00 V	Qualität von Werkzeugmaschinen - Dynamik, Mikro- und Submikromesstechnik		2 hrs	Mon	10-12	ML H34.3 <b>A. Günther</b> , D. Spescha
151-0719-00 U	Qualität von Werkzeugmaschinen - Dynamik, Mikro- und Submikromesstechnik		1 hrs	Wed	08-10	ML H34.3 <b>A. Günther</b> , D. Spescha
<b>151-0721-00L</b>	<b>Production Machines II</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
151-0721-00 V	Production Machines II		2 hrs	Thu	08-10	ML F40 <b>K. Wegener</b> , S. Weikert
151-0721-00 U	Production Machines II		1 hrs	Tue/2w	14-16	ML F40 <b>K. Wegener</b> , S. Weikert
<b>151-0723-00L</b>	<b>Manufacturing of Electronic Devices</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0723-00 G	Manufacturing of Electronic Devices <i>Die Lehrveranstaltung beginnt in der zweiten Semesterwoche.</i>		3 hrs	Wed	14-17	LEE C114 <b>A. Kunz</b> , A. Guber, R.- D. Moryson, F. Reichert
<b>151-0725-00L</b>	<b>Exciting Leadership in a Thrilling Real Business World</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0725-00 G	Exciting Leadership in a Thrilling Real Business World		3 hrs	Wed	14-17	ETZ E9 <b>A. Halbleib</b>
<b>151-0727-00L</b>	<b>Colloquium on Manufacturing Technology</b>	<b>W</b>	<b>4 credits</b>	<b>3K</b>		
151-0727-00 K	Fertigungstechnisches Kolloquium <i>Die Lehrveranstaltung beginnt ab der dritten Vorlesungswoche/ in der Regel 14-tägig.</i>		3 hrs	Wed/2w	13-18	ML F39 <b>K. Wegener</b> , A. Kunz
<b>151-0729-00L</b>	<b>Welding Technology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0729-00 G	Schweisstechnik		3 hrs	Mon Tue	15-16 08-10	CLA E4 CAB G56 <b>K. Wegener</b>
<b>151-0733-00L</b>	<b>Forming Technology III - Forming Processes</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-0733-00 V	Umformtechnik III - Umformtechnische Verfahren <i>Der Kurs wird zum letzten Mal im HS21 angeboten.</i>		2 hrs	Fri	08-10	HG G26.5 <b>P. Hora</b>
151-0733-00 U	Umformtechnik III - Umformtechnische Verfahren <i>Der Kurs wird zum letzten Mal im HS21 angeboten.</i>		2 hrs	Fri	10-12	HG G26.5 <b>P. Hora</b>
<b>151-0833-00L</b>	<b>Applied Finite Element Analysis</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-0833-00 V	Applied Finite Element Analysis		2 hrs	Wed	10-12	ML F38 <b>B. Berisha</b> , N. Manopulo
151-0833-00 U	Applied Finite Element Analysis <i>The exercises will start in the 2nd week of the Semester.</i>		2 hrs	Wed	14-16	IFW A36 <b>B. Berisha</b>
<b>151-0917-00L</b>	<b>Mass Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-0917-00 V	Mass Transfer		2 hrs	Wed	10-12	ML H44 <b>S. E. Pratsinis</b> , V. Mavrantzas, C.-J. Shih
151-0917-00 U	Mass Transfer <i>The exercise will start in the 2nd week of the Semester.</i>		2 hrs	Tue	14-16	HG E1.1 <b>S. E. Pratsinis</b> , V. Mavrantzas, C.-J. Shih
<b>101-0121-00L</b>	<b>Fatigue and Fracture in Materials and Structures</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
101-0121-00 G	Fatigue and Fracture in Materials and Structures <i>The lecture will primarily take place online. The reserved room will remain blocked on campus for students to follow the lecture from there.</i> <i>Remark: Includes a visit to Empa and laboratory tests by student at Empa laboratories.</i>		3 hrs	Tue	10-13	HCI J6 <b>E. Ghafoori</b> , A. Taras
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>		
227-0447-00 V	Image Analysis and Computer Vision		3 hrs	Thu	14-17	HG F1 <b>L. Van Gool</b> , E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision		1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2 <b>L. Van Gool</b> , E. Konukoglu, F. Yu
<b>227-0523-00L</b>	<b>Railway Systems I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>		
227-0523-00 G	Eisenbahn-Systemtechnik I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>		4 hrs	Fri	08-12	LFW C1 <b>M. Meyer</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>		
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3</i> <i>Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>		3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3 <b>J. M. Buhmann</b> , C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning		2 hrs	Wed Thu Fri	14-16 16-18 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61 <b>J. M. Buhmann</b> , C. Cotrini Jimenez

252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs					<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>252-0543-01L</b>	<b>Computer Graphics</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>					
252-0543-01 V	Computer Graphics <i>Does not take place this semester.</i>			3 hrs					
252-0543-01 U	Computer Graphics <i>Does not take place this semester.</i>			2 hrs					
252-0543-01 A	Computer Graphics <i>Does not take place this semester.</i>			2 hrs					
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	14-16	HG E5		<b>G. Fourny</b>
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE		<b>G. Fourny</b>
<b>327-0501-00L</b>	<b>Metals I</b> <i>Offered for the last time in HS 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>					
327-0501-00 V	Metalle I			2 hrs	Tue	09-11	HPT C103		<b>R. Spolenak</b>
327-0501-00 U	Metalle I			1 hrs	Tue	11-12	HPT C103		<b>R. Spolenak</b>
<b>351-0555-00L</b>	<b>Open- and User Innovation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
351-0555-00 G	Open- and User Innovation <i>Block course The Kick-off event will take place ONLINE, 22.09.2021 from 14.00 - 16.00.</i>			23s hrs	22.09. 25.10. 26.10. 27.10.	14-16 09-17 09-17 09-17	ON LINE ML H37.1 ML H37.1 ML H37.1		<b>S. Häfliger, S. Spaeth</b>
<b>363-0445-00L</b>	<b>Production and Operations Management</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0445-00 G	Production and Operations Management <i>This course can be followed fully online and offers extracurricular opportunities for students who want to engage with the teaching staff in the classroom.</i>			2 hrs	Thu	14-16	CAB G11		<b>T. Netland</b>
<b>363-0445-02L</b>	<b>Production and Operations Management – Supplement Credit</b> <i>A parallel enrolment to the lecture 363-0445-00L Production and Operations Management is mandatory.</i>	<b>W</b>	<b>1 credit</b>	<b>1A</b>					
363-0445-02 A	Production and Operations Management – Supplement Credit <i>Does not take place this semester. Irregular lecture</i>			7s hrs					<b>T. Netland</b>
<b>363-0541-00L</b>	<b>Systems Dynamics and Complexity</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
363-0541-00 G	Systems Dynamics and Complexity <i>Lecture: Thursday, 08-10 h Exercises: Tuesday, 12-13 h The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Tue Thu	12-13 08-10	HG D1.2 HG D1.2		<b>F. Schweitzer</b>
<b>376-1177-00L</b>	<b>Human Factors I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
376-1177-00 V	Human Factors I			2 hrs	Tue	14-16	HG G3		<b>M. Menozzi Jäckli, R. Huang, M. Siegrist</b>
<b>376-1219-00L</b>	<b>Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
376-1219-00 V	Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions			2 hrs	Tue	08-10	CAB G11		<b>R. Riener, O. Lambercy</b>
<b>401-0647-00L</b>	<b>Introduction to Mathematical Optimization</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0647-00 V	Introduction to Mathematical Optimization			2 hrs	Tue	16-18	HG F5		<b>D. Adjashvili</b>
401-0647-00 U	Introduction to Mathematical Optimization <i>Groups are selected in myStudies. Wed 12-13 or Wed 16-17</i>			1 hrs	Wed	12-13 16-17	HG D1.2 IFW A36 ON LINE		<b>D. Adjashvili</b>
<b>151-0544-00L</b>	<b>Metal Additive Manufacturing - Mechanical Integrity and Numerical Analysis</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0544-00 G	Metal Additive Manufacturing - Mechanical Integrity and Numerical Analysis			3 hrs	Mon	10-13	CAB G51		<b>E. Hosseini</b>

## ►► Robotics, Systems and Control

*The courses listed in this category “Core Courses” are recommended. Alternative courses can be chosen in agreement with the tutor.*

Number	Title	Type	ECTS	Hours	Lecturers
151-0107-20L	High Performance Computing for Science and Engineering (HPCSE) I	W	4 credits	4G	

151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h</i> <i>Exercises: 14-16h</i>	4 hrs	Fri	12-14 14-16	ML H44 ML H44	<b>P. Koumoutsakos,</b> S. M. Martin
<b>151-0325-00L</b>	<b>Planning and Decision Making for Autonomous Robots</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
151-0325-00 V	Planning and Decision Making for Autonomous Robots		2 hrs	Wed	10-12	<b>E. Frazzoli</b>
151-0325-00 U	Planning and Decision Making for Autonomous Robots		1 hrs	Wed	12-13	<b>E. Frazzoli</b>
<b>151-0371-00L</b>	<b>Advanced Model Predictive Control</b> <i>Number of participants limited to 40.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
151-0371-00 V	Advanced Model Predictive Control <i>The lecture will take place on 30.09.21 in HG D 7.2.</i>		2 hrs	Thu 30.09.	10-12 10-12	<b>M. Zeilinger,</b> A. Carron, L. Hewing, J. Köhler
151-0371-00 U	Advanced Model Predictive Control <i>The lecture will take place on 30.09.21 in HG D 7.2.</i>		1 hrs	Thu 30.09.	12-13 12-13	<b>M. Zeilinger,</b> A. Carron, L. Hewing, J. Köhler
<b>151-0532-00L</b>	<b>Nonlinear Dynamics and Chaos I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-0532-00 V	Nonlinear Dynamics and Chaos I		2 hrs	Wed	10-12	<b>G. Haller</b>
151-0532-00 U	Nonlinear Dynamics and Chaos I		2 hrs	Tue	16-18	<b>G. Haller</b>
<b>151-0563-01L</b>	<b>Dynamic Programming and Optimal Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester.</i> <i>Online lecture: This lecture will primarily take place online.</i> <i>Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Wed	14-16	<b>R. D'Andrea</b>
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>		1 hrs	Wed 29.09.	16-17 16-17	<b>R. D'Andrea</b>
<b>151-0567-00L</b>	<b>Engine Systems</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0567-00 G	Engine Systems <i>Lecture: Monday 8-10h</i> <i>Exercises: Monday 12-13h</i>		3 hrs	Mon 06.10.	08-10 12-13 12-14	<b>C. Onder</b>
<b>151-0569-00L</b>	<b>Vehicle Propulsion Systems</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0569-00 G	Vehicle Propulsion Systems		3 hrs	Fri	08-10 12-14	<b>C. Onder,</b> P. Elbert
<b>151-0573-00L</b>	<b>System Modeling</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
151-0573-00 V	System Modeling		2 hrs	Wed	08-10	<b>L. Guzzella</b>
151-0573-00 U	System Modeling <i>Groups are selected in myStudies.</i> <i>Die Übungen finden ab der zweiten Semesterwoche statt.</i> <i>Di 13-14, Di 17-18 oder Do 8-9 gemäss Gruppeneinteilung.</i>		1 hrs	Tue  Thu	13-14 17-18 08-09	<b>L. Guzzella</b>
<b>151-0593-00L</b>	<b>Embedded Control Systems</b>	<b>W</b>	<b>4 credits</b>	<b>6G</b>		
151-0593-00 G	Embedded Control Systems <i>This two-week block course take places daily (13-17.09.2021 &amp; 20-24.09.2021) and is comprised of</i> <i>- Lectures: 8-12 h</i> <i>- Exercises: 13-17 h</i>		80s hrs	13.09. 13.09.- 17.09. 13.09.- 24.09. 20.09. 21.09. 22.09. 23.09. 24.09.	08-10 08-12 08-12 13-17 08-12 13-17 08-12 08-12 15-17 08-12 08-12	<b>J. S. Freudenberg,</b> <b>M. Schmid Daners</b>
<b>151-0601-00L</b>	<b>Theory of Robotics and Mechatronics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		3 hrs	Mon	08-10 10-11	<b>P. Korba, S. Stoeter</b>
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>		3 hrs	Mon Thu	16-18 11-12	<b>B. Nelson,</b> N. Shamsudhin
<b>151-0632-00L</b>	<b>Vision Algorithms for Mobile Robotics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich.</i> <i>Book the corresponding module directly at UZH as an incoming student.</i> <i>UZH Module Code: DINF2039</i>  <i>Mind the enrolment deadlines at UZH:</i> <i><a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>		
151-0632-00 V	Vision Algorithms for Mobile Robotics (University of Zurich) <b>**Course at University of Zurich**</b>		2 hrs			<b>D. Scaramuzza</b>
151-0632-00 U	Vision Algorithms for Mobile Robotics (University of Zurich) <b>**Course at University of Zurich**</b>		2 hrs			<b>D. Scaramuzza</b>

<b>151-0655-00L</b>	<b>Skills for Creativity and Innovation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0655-00 G	Skills for Creativity and Innovation			3 hrs	Fri	09-12	HG F26.5	<b>I. Goller, C. Kobe</b>	
<b>151-0727-00L</b>	<b>Colloquium on Manufacturing Technology</b>	<b>W</b>	<b>4 credits</b>	<b>3K</b>					
151-0727-00 K	Fertigungstechnisches Kolloquium <i>Die Lehrveranstaltung beginnt ab der dritten Vorlesungswoche/ in der Regel 14-tägig.</i>			3 hrs	Wed/2w	13-18	ML F39	<b>K. Wegener, A. Kunz</b>	
<b>151-0851-00L</b>	<b>Robot Dynamics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0851-00 V	Robot Dynamics ■			2 hrs	Tue	10-12	HG G5	<b>M. Hutter, R. Siegwart</b>	
151-0851-00 U	Robot Dynamics ■			2 hrs	Wed	08-10	HG G5 IFW A36	<b>M. Hutter, R. Siegwart</b>	
<b>151-0905-00L</b>	<b>Medical Technology Innovation - From Concept to Clinics</b>	<b>W</b>	<b>4 credits</b>	<b>3P</b>					
151-0905-00 P	Medical Technology Innovation - From Concept to Clinics			3 hrs	Tue	08-11	LFW C4	<b>I. Herrmann</b>	
<b>151-0917-00L</b>	<b>Mass Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0917-00 V	Mass Transfer			2 hrs	Wed	10-12	ML H44	<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>	
151-0917-00 U	Mass Transfer <i>The exercise will start in the 2nd week of the Semester.</i>			2 hrs	Tue	14-16	HG E1.1	<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>	
<b>151-1116-00L</b>	<b>Introduction to Aircraft and Car Aerodynamics</b> <i>Note: The previous course title in German until HS20 "Einführung in Flug- und Fahrzeugaerodynamik".</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-1116-00 G	Introduction to Aircraft and Car Aerodynamics			3 hrs	Thu 23.09.	16-19 16-19	ML F39 ML F36	<b>M. Immer, F. Schröder</b>	
<b>227-0124-00L</b>	<b>Embedded Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0124-00 G	Embedded Systems <i>Exercises in groups.</i>			4 hrs	Mon Wed Fri	14-16 16-18 16-18	ETF C1 ETZ D61.1 ETZ D96.1 ETF E1 ETZ D61.1 ETZ D96.1	<b>L. Thiele, M. Magno</b>	
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0225-00 G	Linear System Theory			5 hrs	Mon Wed 22.09.	09-12 10-12 10-12	IFW A36 ETZ E6 HG D1.1	<b>A. Iannelli</b>	
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1	<b>L. Van Gool, E. Konukoglu, F. Yu</b>	
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool, E. Konukoglu, F. Yu</b>	
<b>227-0517-10L</b>	<b>Fundamentals of Electric Machines</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0517-10 G	Fundamentals of Electric Machines			4 hrs	Thu	08-10 10-12	HG D5.2 HG D5.2	<b>D. Bortis</b>	
<b>227-0689-00L</b>	<b>System Identification</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
227-0689-00 V	System Identification			2 hrs	Wed	10-12	HG D7.1	<b>R. Smith</b>	
227-0689-00 U	System Identification			1 hrs	Wed	12-13	ETZ D61.1 HG D7.1	<b>R. Smith</b>	
<b>227-0920-00L</b>	<b>Seminar in Systems and Control</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>					
227-0920-00 S	Seminar in Systems and Control <i>Detailed information on the seminars upon subscription only: Several seminars will take place during the semester, but some of the available slots may remain unoccupied. Seminars will be announced individually, enrolled students will receive detailed information for each one by email.</i>  <i>Online lecture: This lecture will take place online until 25.10.21. Reserved room will remain reserved on campus for students to follow the course from there. From 01.11.21 in presence. Course website: <a href="https://nccr-automation.ch/news/2021/nccr-automation-seminar-series">https://nccr-automation.ch/news/2021/nccr-automation-seminar-series</a></i>			1 hrs	Mon 21.09.	16-17 16-17	ML F38 ON LINE	<b>F. Dörfler, R. D'Andrea, E. Frazzoli, M. H. Khammash, J. Lygeros, R. Smith</b>	
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	14-16	HG E5	<b>G. Fourny</b>	
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE	<b>G. Fourny</b>	
<b>252-3110-00L</b>	<b>Human Computer Interaction</b> <i>Number of participants limited to 150.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>					

252-3110-00 V	Human Computer Interaction			2 hrs	Wed	14-16	HG D7.2	<b>O. Hilliges, C. Holz</b>
252-3110-00 U	Human Computer Interaction			1 hrs	Thu	12-13	CAB G56 CHN F46 LFW B3	<b>O. Hilliges, C. Holz</b>
252-3110-00 A	Human Computer Interaction			2 hrs				<b>O. Hilliges, C. Holz</b>
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>			3 hrs	Fri	10-12 13-14	ETA F5 ETF E1 ETA F5 ETF E1	<b>A. Krause</b>
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>			2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs				<b>A. Krause</b>
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-5902-00 V	Computer Vision			3 hrs	Wed Thu	14-16 12-13	NO C60 HG G5	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 U	Computer Vision			1 hrs	Thu Fri	13-14 13-14	CAB G51 CAB G51	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 A	Computer Vision			3 hrs				<b>M. Pollefeys, S. Tang, F. Yu</b>
<b>376-1219-00L</b>	<b>Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-1219-00 V	Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions			2 hrs	Tue	08-10	CAB G11	<b>R. Riener, O. Lamercy</b>
<b>376-1504-00L</b>	<b>Physical Human Robot Interaction (pHRI)</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
376-1504-00 V	Physical Human-Robot Interaction (pHRI) ■ <i>To apply for the course, please prepare a letter of motivation (max. one A4 page). Please include in the letter which study program and semester you are in. Please describe why you would like to attend the course and what you expect to learn during the course. The letter should be sent to Jan Dittli (jan.dittli@hest.ethz.ch) by 05.09.2021.</i>			2 hrs	Thu	08-10	NO E11	<b>O. Lamercy</b>
376-1504-00 U	Physical Human-Robot Interaction (pHRI) ■			2 hrs	Thu	10-12	NO E11	<b>O. Lamercy</b>

## ►► Micro & Nanosystems

The courses listed in this category "Core Courses" are recommended. Alternative courses can be chosen in agreement with the tutor.

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0107-20L</b>	<b>High Performance Computing for Science and Engineering (HPCSE) I</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h Exercises: 14-16h</i>			4 hrs	Fri	12-14 14-16	ML H44 ML H44		<b>P. Koumoutsakos, S. M. Martin</b>
<b>151-0409-00L</b>	<b>Multiphysics Modeling and Simulation</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0409-00 V	Multiphysics Modeling and Simulation			2 hrs	Wed	12-14	LFV E41		<b>C. I. Roman</b>
151-0409-00 U	Multiphysics Modeling and Simulation			2 hrs	Wed	16-18	LFV E41		<b>C. I. Roman</b>
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60		<b>B. Nelson, N. Shamsudhin</b>
<b>151-0605-00L</b>	<b>Nanosystems</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
151-0605-00 G	Nanosystems <i>Lecture: Thursday 10-13. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Exercises: will take place in the laboratories.</i>			4 hrs	Thu	10-13	ML F40		<b>A. Stemmer</b>
<b>151-0620-00L</b>	<b>Embedded MEMS Lab</b>	<b>W</b>	<b>5 credits</b>	<b>3P</b>					
151-0620-00 P	Embedded MEMS Lab <i>- First part of the compulsory introductory lecture: Monday 27.09.2021 from 13:15h to 18h (venue: tbd) - Second part of the compulsory introductory lecture: Monday 04.10.2021 from 13:15h to 18h (venue: tbd) - Practical portion of the course in the cleanrooms of CLA: 7 consecutive Mondays from 13:00 (exact) to ~18:30 during the Semester. Starting days for groups are staggered. - Attendance is required at all meetings of the course.</i>			45s hrs	Mon	13-14 13-17 27.09. 13-18 04.10. 13-18	ML J34.1 ML J34.3 ML J37.1 CLA G2 ML H43 ML H43		<b>C. Hierold, S. Blunier, M. Haluska</b>
<b>151-0621-00L</b>	<b>Microsystems I: Process Technology and Integration</b>	<b>W</b>	<b>6 credits</b>	<b>3V+3U</b>					
151-0621-00 V	Microsystems I: Process Technology and Integration <i>The lecture starts in the second week of the Semester.</i>			3 hrs	Thu	13-16	HG E5		<b>C. Hierold, M. Haluska</b>
151-0621-00 U	Microsystems I: Process Technology and Integration <i>The exercise starts in the third week of the Semester.</i>			3 hrs	Tue	16-19	HG E1.2		<b>M. Haluska</b>
<b>151-0642-00L</b>	<b>Seminar on Micro and Nanosystems</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>					
151-0642-00 S	Seminar on Micro and Nanosystems			1 hrs	Fri	14-16	CLA G2		<b>C. Hierold</b>

<b>151-0911-00L</b>	<b>Introduction to Plasmonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0911-00 V	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>			2 hrs					<b>D. J. Norris</b>
151-0911-00 U	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>			1 hrs					<b>D. J. Norris</b>
<b>151-0913-00L</b>	<b>Introduction to Photonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0913-00 V	Introduction to Photonics			2 hrs	Thu	10-12	HG E22		<b>R. Quidant, J. Ortega Arroyo</b>
151-0913-00 U	Introduction to Photonics			2 hrs	Thu	14-16	HG E22		<b>R. Quidant, J. Ortega Arroyo</b>
<b>151-0917-00L</b>	<b>Mass Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0917-00 V	Mass Transfer			2 hrs	Wed	10-12	ML H44		<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>
151-0917-00 U	Mass Transfer <i>The exercise will start in the 2nd week of the Semester.</i>			2 hrs	Tue	14-16	HG E1.1		<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>
<b>151-0931-00L</b>	<b>Seminar on Particle Technology</b>	<b>Z</b>	<b>0 credits</b>	<b>3S</b>					
151-0931-00 S	Seminar on Particle Technology			3 hrs	Fri	14-17	ML F40		<b>S. E. Pratsinis</b>
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	14-16	HG E5		<b>G. Fourny</b>
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE		<b>G. Fourny</b>

## ►► Bioengineering

The courses listed in this category "Core Courses" are recommended. Alternative courses can be chosen in agreement with the tutor.

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0107-20L</b>	<b>High Performance Computing for Science and Engineering (HPCSE) I</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h Exercises: 14-16h</i>			4 hrs	Fri	12-14 14-16	ML H44 ML H44		<b>P. Koumoutsakos, S. M. Martin</b>
<b>151-0317-00L</b>	<b>Visualization, Simulation and Interaction - Virtual Reality II</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0317-00 G	Visualization, Simulation and Interaction - Virtual Reality II <i>Additional lecture hour in consultation with the students.</i>			3 hrs	Mon	12-15	CLA E4		<b>A. Kunz</b>
<b>151-8101-00L</b>	<b>International Engineering: from Hubris to Hope</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-8101-00 G	International Engineering: from Hubris to Hope			3 hrs	Thu	15-18	LEE D105		<b>E. Tilley, M. Kalina</b>
<b>151-0917-00L</b>	<b>Mass Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0917-00 V	Mass Transfer			2 hrs	Wed	10-12	ML H44		<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>
151-0917-00 U	Mass Transfer <i>The exercise will start in the 2nd week of the Semester.</i>			2 hrs	Tue	14-16	HG E1.1		<b>S. E. Pratsinis, V. Mavrantzas, C.-J. Shih</b>
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>			5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7		<b>S. Kozerke, K. P. Prüssmann</b>
<b>227-0386-00L</b>	<b>Biomedical Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>			3 hrs	Wed	08-10 10-11	ETF E1 ETF E1		<b>J. Vörös, S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong</b>
<b>227-0393-10L</b>	<b>Bioelectronics and Biosensors</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0393-10 V	Bioelectronics and Biosensors			2 hrs	Fri	09-11	HG E1.2		<b>J. Vörös, M. F. Yanik</b>
227-0393-10 U	Bioelectronics and Biosensors			2 hrs	Fri	08-09 11-12	HG E1.2 HG E1.2		<b>M. F. Yanik, J. Vörös</b>
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1		<b>L. Van Gool, E. Konukoglu, F. Yu</b>
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2		<b>L. Van Gool, E. Konukoglu, F. Yu</b>
<b>227-0939-00L</b>	<b>Cell Biophysics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0939-00 G	Cell Biophysics			4 hrs	Tue Thu	16-18 16-18	HG D7.2 ML F38		<b>T. Zambelli</b>
<b>227-0945-00L</b>	<b>Cell and Molecular Biology for Engineers I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>This course is part I of a two-semester</i>								



	course.							
227-0945-00 G	Cell and Molecular Biology for Engineers I		2 hrs	Thu	10-12	LFW C5	<b>C. Frei</b>	
<b>227-0965-00L</b>	<b>Micro and Nano-Tomography of Biological Tissues</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues		3 hrs	Mon	09-12	ETZ E9	<b>M. Stampanoni, F. Marone Welford</b>	
<b>227-0981-00L</b>	<b>Cross-Disciplinary Research and Development in Medicine and Engineering</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2A</b>				
	<i>A maximum of 12 medical degree students and 12 (biomedical) engineering degree students can be admitted, their number should be equal.</i>							
227-0981-00 V	Cross-Disciplinary Research and Development in Medicine and Engineering ■		2 hrs	Tue	10-12	HG E41	<b>V. Kurtcuoglu, D. de Julien de Zelicourt, M. Meboldt, M. Schmid Daners, O. Ullrich</b>	
	<i>Permission from lecturers required for all students **together with University of Zurich**</i>							
	<i>In order to synchronize the schedule between ETH and UZH students, the course will start on Tuesday 28.09. The final lecture will be on 07.12.</i>							
	<i>IMPORTANT: Note that a special permission from the lecturers is required to register for this course. Contact the head lecturer to that end.</i>							
227-0981-00 A	Cross-Disciplinary Research and Development in Medicine and Engineering ■		2 hrs				<b>V. Kurtcuoglu, D. de Julien de Zelicourt, M. Meboldt, M. Schmid Daners, O. Ullrich</b>	
	<i>Permission from lecturers required for all students **together with University of Zurich**</i>							
	<i>2 hours of group work to be scheduled independently by the joint teams of medical and engineering students.</i>							
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
252-0834-00 V	Information Systems for Engineers		2 hrs	Fri	14-16	HG E5	<b>G. Fourny</b>	
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>							
252-0834-00 U	Information Systems for Engineers		1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE	<b>G. Fourny</b>	
	<i>Groups are selected in myStudies.</i>							
<b>376-0121-00L</b>	<b>Multiscale Bone Biomechanics</b>	<b>W</b>	<b>6 credits</b>	<b>4S</b>				
	<i>Number of participants limited to 30</i>							
376-0121-00 S	Multiscale Bone Biomechanics ■		4 hrs	Fri	12-16	HCP E47.2	<b>R. Müller, X.-H. Qin</b>	
<b>376-1177-00L</b>	<b>Human Factors I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-1177-00 V	Human Factors I		2 hrs	Tue	14-16	HG G3	<b>M. Menozzi Jäckli, R. Huang, M. Siegrist</b>	
<b>376-1219-00L</b>	<b>Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-1219-00 V	Rehabilitation Engineering II: Rehabilitation of Sensory and Vegetative Functions		2 hrs	Tue	08-10	CAB G11	<b>R. Riener, O. Lamercy</b>	
<b>376-1504-00L</b>	<b>Physical Human Robot Interaction (pHRI)</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
376-1504-00 V	Physical Human-Robot Interaction (pHRI) ■		2 hrs	Thu	08-10	NO E11	<b>O. Lamercy</b>	
	<i>To apply for the course, please prepare a letter of motivation (max. one A4 page). Please include in the letter which study program and semester you are in. Please describe why you would like to attend the course and what you expect to learn during the course. The letter should be sent to Jan Dittli (jan.dittli@hest.ethz.ch) by 05.09.2021.</i>							
376-1504-00 U	Physical Human-Robot Interaction (pHRI) ■		2 hrs	Thu	10-12	NO E11	<b>O. Lamercy</b>	
<b>376-1651-00L</b>	<b>Clinical and Movement Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
	<i>Number of participants limited to 50.</i>							
376-1651-00 G	Clinical and Movement Biomechanics		3 hrs	Wed	14-17	HIL E9	<b>N. Singh, R. List, P. Schütz</b>	
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
376-1714-00 V	Biocompatible Materials		3 hrs	Fri	09-12	HG G3	<b>K. Maniura, M. Rottmar, M. Zenobi-Wong</b>	
	<i>Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h</i>							
<b>376-1985-00L</b>	<b>Trauma Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
376-1985-00 V	Trauma Biomechanics		2 hrs	Thu	10-12	HG D7.1	<b>K.-U. Schmitt, M. H. Muser</b>	
376-1985-00 U	Trauma Biomechanics		1 hrs	Thu/2w	14-16	HG E33.3	<b>K.-U. Schmitt, M. H. Muser</b>	
<b>402-0341-00L</b>	<b>Medical Physics I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0341-00 V	Medical Physics I		2 hrs	Thu	16-18	HPT C103	<b>P. Manser</b>	
402-0341-00 U	Medical Physics I		1 hrs	Thu	18-19	HPT C103	<b>P. Manser</b>	

<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3	<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp	

## ►► Design, Computation, Product Development & Manufacturing

The courses listed in this category "Core Courses" are recommended. Alternative courses can be chosen in agreement with the tutor.

Number	Title	Type	ECTS	Hours						Lecturers
<b>151-3209-00L</b>	<b>Engineering Design Optimization</b> <i>Number of participants limited to 60.</i>	<b>W</b>	<b>4 credits</b>	<b>4G</b>						
151-3209-00 G	Engineering Design Optimization <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			4 hrs	Wed	08-12	ETZ E8	<b>K. Shea</b> , T. Stankovic		
<b>151-3215-00L</b>	<b>Design for Additive Manufacturing</b> <i>For a place in the course please write a short letter of motivation stating why you like to attend the course, your experiences in CAD-Design, Simulation and additive manufacturing. Please mention in the letter, if you already have a suggestion for a part to be designed in the semester project. Send the letter to Julian Ferchow (email: ferchowj@ethz.ch),</i>	<b>W</b>	<b>4 credits</b>	<b>2G</b>						
151-3215-00 G	Design for Additive Manufacturing ■			2 hrs	Tue	13-16	LEO B8.1	<b>M. Meboldt</b> , J. Ferchow		
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>						
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	14-16	HG E5	<b>G. Fourny</b>		
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE	<b>G. Fourny</b>		
<b>363-1065-00L</b>	<b>Design Thinking: Human-Centred Solutions to Real World Challenges</b>	<b>W</b>	<b>5 credits</b>	<b>5G</b>						
363-1065-00 G	Design Thinking: Human-Centred Solutions to Real World Challenges <i>Does not take place this semester. From FS22 in the spring semester.</i>			5 hrs						S. Brusoni

## ► Multidisciplinary Courses

The students are free to choose individually from the Course Catalogue of ETH Zurich, ETH Lausanne and the Universities of Zurich (<https://www.uzh.ch/cmsssl/en/studies/application/chmobilityin.html>) and St. Gallen.

Course Catalogue of ETH Zurich

## ► Semester Project

Number	Title	Type	ECTS	Hours	Lecturers
151-1002-00L	<b>Semester Project Mechanical Engineering</b> <i>Only for Mechanical Engineering MSc.</i>  <i>The subject of the Semester Project and the choice of the supervisor (ETH-professor) are to be approved in advance by the tutor.</i>	O	8 credits	17A	
151-1002-00 A	Semester Project Mechanical Engineering			240s hrs by appt.	Professors

## ► Industrial Internship

Number	Title	Type	ECTS	Hours	Lecturers
151-1090-00L	<b>Industrial Internship</b> <i>Access to the company list and request for recognition under <a href="http://www.mavt.ethz.ch/praxis">www.mavt.ethz.ch/praxis</a>.</i>	O	8 credits		
	<i>No registration required via myStudies.</i>				
151-1090-00 P	Industrial Internship				external organisers

## ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-MAVT.

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
151-1001-00L	<b>Master's Thesis Mechanical Engineering O</b> <i>Students who fulfill the following criteria are allowed to begin with their Master's Thesis:</i> <i>a. successful completion of the bachelor program;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme;</i> <i>c. successful completion of the semester project and industrial internship;</i> <i>d. achievement of 28 ECTS in the category "Core Courses".</i>  <i>The Master's Thesis must be approved in advance by the tutor and is supervised by a professor of ETH Zurich.</i> <i>To choose a titular professor as a supervisor, please contact the D-MAVT Student Administration.</i>	O	30 credits	64D	
151-1001-00 D	Master's Thesis Mechanical Engineering ■			900s hrs by appt.	Professors

## ► Course Units for Additional Admission Requirements

*The courses below are only available for MSc students with additional admission requirements.*

Number	Title	Type	ECTS	Hours	Lecturers
406-0173-AAL	<b>Linear Algebra I and II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	6 credits	13R	
406-0173-AA R	Linear Algebra I and II Self-study course. No presence required.			180s hrs	N. Hungerbühler
406-0353-AAL	<b>Analysis III</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	4 credits	9R	
406-0353-AA R	Analysis III Self-study course. No presence required.			120s hrs	A. Iozzi

### Mechanical Engineering Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Mechanical and Process Engineering TC

Detailed information on the programme: [www.didaktischeausbildung.ethz.ch](http://www.didaktischeausbildung.ethz.ch)

## ► Educational Science

General course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours	Lecturers			
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V				
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1	E. Stern
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S				
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114	M. Berkowitz Biran, T. Braas, C. M. Thurn
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S				
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1	R. Schumacher
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S				
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40	E. Stern
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S				
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1	P. Edelsbrunner, T. Braas, C. M. Thurn
851-0240-22L	<b>Coping with Psychosocial Demands of Teaching (EW4 DZ)</b> <i>Number of participants limited to 20.</i>  <i>The successful participation in EW1 ("Human Learning") and EW2 ("Designing Learning Environments for School") is recommended, but not a mandatory prerequisite.</i>	W	2 credits	3S				

## ► Subject Didactics and Professional Training

*Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.*

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-1079-00L</b>	<b>Teaching Internship Including Examination Lessons Mechanical and Process Engineering</b> <i>The teaching internship can just be visited if all other courses of TC are completed. Repetition of the teaching internship is excluded even if the examination lessons are to be repeated.</i>	<b>W</b>	<b>6 credits</b>	<b>13P</b>	
151-1079-00 P	Unterrichtspraktikum mit Prüfungslektionen Maschineneing. und Verfahrenstechnik DZ ■			180s hrs by appt.	<b>Q. Lohmeyer</b>
<b>227-0857-00L</b>	<b>Didactics I for D-MAVT and D-ITET</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>	
227-0857-00 G	Fachdidaktik I für D-MAVT und D-ITET ■			3 hrs Wed 16-19 ML J37.1	<b>Q. Lohmeyer</b> , A. Colotti

## ► Further Subject Didactics

*For students enrolled from HS 2019: The courses offered here are credited under the category «Subject Didactics and Professional Training».*

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-1072-00L</b>	<b>Mentored Thesis in Didactics of Mechanical and Process Engineering</b>	<b>O</b>	<b>2 credits</b>	<b>4A</b>	
151-1072-00 A	Mentorierte Arbeit Fachdidaktik Maschineningenieurwissenschaften und Verfahrenstechnik ■			60s hrs by appt.	<b>Q. Lohmeyer</b>

### Mechanical and Process Engineering TC - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Materials Science Bachelor

## ► Bachelor Studies (Programme Regulations 2020)

### ►► Basis Courses Part 1

#### ►►► First Year Examinations

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0261-G0L</b>	<b>Analysis I</b>	<b>O</b>	<b>8 credits</b>	<b>5V+3U</b>				
401-0261-00 V	Analysis I <i>Vorlesung</i> <i>Mo 8-10 (alternierend mit Schnellübungen), im HG F1 mit Videoübertragung ins HG F3.</i> <i>Mi 8-10 im ETA F 5 mit Videoübertragung ins HG E 3</i> <i>Fr 8-10 im ETA F 5 mit Videoübertragung ins ETF E 1</i>			5 hrs	Mon/2w	08-10	HG F1 HG F3 ETA F5 HG E3 ETA F5 ETF E1	<b>A. Steiger</b>
401-0261-00 U	Analysis I <i>Groups are selected in myStudies.</i> <i>Die Übungen beginnen in der zweiten Semesterwoche.</i> <i>Schnellübungen Mo 8-10 (alternierend mit der Vorlesung).</i> <i>Fr 10-12 oder Fr 12-14 gemäss Gruppeneinteilung.</i>  <i>Zusätzlich wird das Study Center angeboten: Mittwochs 18-20 Uhr ab der 3. Semesterwoche im HG E 1.2, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>			3 hrs	Mon/2w	08-10	CAB G51 CHN E46 CHN F46 HG D3.2 HG D5.2 HG D7.1 IFW A32.1 LFW B1 LFW C5 NO C6 RZ F21 CHN D46 CHN F42 ETZ F91 ETZ H91 HG G26.1 IFW A32.1 IFW C33 LEE C104 LEE D101 LFW E13 NO C6 CHN D46 CHN F42 ETZ F91 ETZ H91 HG G26.1 IFW A32.1 IFW C33 LEE C104 LEE D101 LFW E13 NO C6	<b>A. Steiger</b>
<b>401-0171-00L</b>	<b>Linear Algebra I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
401-0171-00 V	Lineare Algebra I <i>Groups are selected in myStudies.</i> <i>Di 10-12 im ETA F 5 mit Videoübertragung im ETF E 1</i>			2 hrs	Tue	10-12	ETA F5 ETF E1	<b>N. Hungerbühler</b>
401-0171-00 U	Lineare Algebra I <i>Groups are selected in myStudies.</i> <i>Ab der ERSTEN Semesterwoche:</i> <i>Fr 10-11 bzw. Fr 12-13 oder Fr 13-14 gemäss Gruppeneinteilung (entsprechend der Gruppeneinteilung für die Übungen in Analysis I: Fr 12-14 bzw. Fr 10-12).</i> <i>In der ersten Semesterwoche findet am 24.09.2021 in den regulären Übungsstunden für alle Studierenden eine Einführung in MATLAB statt (für die Übungsgruppen G-01B und G-02B finden die Übungen vom 24.09. im Raum CAB G 59 statt, ab 01.10. im Raum CAB G 52).</i>  <i>Zusätzlich wird das Study Center angeboten: Mittwochs 18-20 Uhr ab der 3. Semesterwoche im HG E 1.2, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>			1 hrs	Fri	10-11	CAB G52 CHN D48 HG G26.3 IFW A34 IFW C31 LEE D105 ML F34 ML J34.1 ML J34.3 ML J37.1 NO C44 CAB G52 CHN D48 CHN E42 ML F34 ML H41.1 CAB G52 CAB G56 CHN D48 CHN E42 ML F34 ML H41.1 CAB G59 CAB G59	<b>N. Hungerbühler</b>
<b>327-0112-00L</b>	<b>Chemistry I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>				
327-0112-00 V	Chemie I			2 hrs	Mon	10-12	HG E1.1	<b>M. Niederberger</b>
327-0112-00 U	Chemie I			1 hrs	Thu	09-10	HCI D2 HCI D8	<b>P. J. Walde, W. R. Caseri</b>
<b>402-0050-00L</b>	<b>Physics I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
402-0050-00 V	Physik I			2 hrs	Thu	10-12	HPH G3	<b>D. Rupp</b>

402-0050-00 U	Physik I <i>Die Übungen beginnen in der 2. Semesterwoche</i>			2 hrs	Tue	12-14	HG D3.3 HG D5.1 HG D5.3 HG E22	<b>D. Rupp</b>
<b>327-0113-00L</b>	<b>Foundations of Materials Science I</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>				
327-0113-00 G	Materialwissenschaftliche Grundlagen I			2 hrs	Wed	12-14	HIL E6	<b>L. Isa</b>
<b>▶▶▶ Additional First Year Basic Courses</b>								
Number	Title	Type	ECTS	Hours			Lecturers	
<b>327-0111-00L</b>	<b>Projects and Lab Courses I</b>	<b>O</b>	<b>7 credits</b>	<b>7P</b>				
327-0111-00 P	Projekte und Praktika I ■ <i>Effektive Anfangszeiten gemäss separater Ankündigung.</i>			7 hrs	Mon Wed Thu	16-18 14-15 14-18 13-14	HCI HCI F8 HCI HCI D2 HCI H2.1	<b>M. B. Willeke, L. De Pietro, M. R. Dusseiller, S. Morgenthaler Kobas, T.-B. Schweizer</b>
						13-18 22.09. 14-16 23.09. 13-15 27.09. 16-18 04.10. 16-18	HCI HCI D8 HIL E3 HCI G3 HCI J4	
<b>327-0114-00L</b>	<b>Programming I</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>				
327-0114-00 G	Programmieren I			2 hrs	Mon	14-16	HIL E4	<b>L. De Pietro</b>
<b>▶▶ Second Year Basic Courses</b>								
<b>▶▶▶ Examination Blocks</b>								
<b>▶▶▶▶ Examination Block 1</b>								
Number	Title	Type	ECTS	Hours			Lecturers	
<b>401-0363-10L</b>	<b>Analysis III</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
401-0363-10 V	Analysis III <i>Lectures in HG F7 with video transmission to HG F5. Starts in the second week of the semester.</i>			2 hrs	Thu	14-16	HG F5 HG F7	<b>A. Iozzi</b>
401-0363-10 U	Analysis III <i>Groups are selected in myStudies. Many of the exercise classes are offered in German.</i>  <i>Zusätzlich wird das Study Center angeboten: Montags 18-20 Uhr ab der 3. Semesterwoche im HG E 1.1, wo die Möglichkeit des betreuten Lernens angeboten wird. Im Study Center können Studierende Vorlesungsstoff vor- oder nachbereiten und Übungen lösen.</i>			1 hrs	Thu/1 Thu/2 Thu/1 Thu/2	16-17 16-17 16-17 16-17	CAB G56 CAB G56 CAB G59 CAB G59 CLA E4	<b>A. Iozzi</b>
					Thu/1 Thu/2 Thu/1	16-17 16-17 16-17	CLA E4 HG G26.3 HG G26.3 HG G26.5	
					Thu/2 Thu/1 Thu/2	16-17 16-17 16-17	HG G26.5 LFW B3 LFW B3 LFW E13	
					Thu/1 Thu/2 Thu/1	16-17 16-17 16-17	LFW E13 ML F40 ML F40	
					Thu/2 Thu/1	16-17 16-17	ML J34.1 ML J34.1	
					Thu/1 Thu/2	16-17 17-18	CAB G56 CAB G59	
					Thu/1 Thu/2 Thu/1	17-18 17-18 17-18	CAB G59 CLA E4 CLA E4	
					Thu/2	17-18	HG G26.3 HG G26.3 HG G26.5	
					Thu/1	17-18	HG G26.5 LFW B3	
					Thu/2	17-18	LFW B3 LFW E13	
					Thu/1	17-18	LFW E13 ML F40	
					Thu/2 Thu/1 Thu/2	17-18 17-18 17-18	ML F40 ML J34.1 ML J34.1	
<b>327-0316-00L</b>	<b>Quantum Mechanics for Materials Scientists</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
327-0316-00 V	Quantenmechanik für Materialwissenschaftler/innen I			2 hrs	Mon	10-12	HPV G5	<b>S. M. Stepanow</b>
327-0316-00 U	Quantenmechanik für Materialwissenschaftler/innen I			1 hrs	Wed	09-10	HCI D451 HCP E47.3	<b>S. M. Stepanow</b>
<b>327-0313-00L</b>	<b>Materials Characterization I</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>				
327-0313-00 G	Materials Characterization I			3 hrs	Fri	08-11	HCI H8.1	<b>A. Lauria, A. Anastasaki</b>
<b>▶▶▶▶ Examination Block 2</b>								
Number	Title	Type	ECTS	Hours			Lecturers	
<b>327-0312-00L</b>	<b>Materials Synthesis I</b>	<b>O</b>	<b>4 credits</b>	<b>4G</b>				
327-0312-00 G	Materials Synthesis I			4 hrs	Wed	10-14	HPT C103	<b>A. Anastasaki, D. Opris</b>

<b>327-0315-00L</b>	<b>Statistical Thermodynamics</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>					
327-0315-00 G	Statistical Thermodynamics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Thu	10-13	HCI D8	<b>A. Gusev</b> , H. C. Öttinger	
<b>327-0104-00L</b>	<b>Crystallography</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>					
327-0104-00 G	Kristallografie			2 hrs	Mon	14-16	HCI D8	<b>T. Lottermoser</b> , M. Fiebig, A. Simonov, T. Weber	

### ►►► Projects and Applications

Number	Title	Type	ECTS	Hours					Lecturers
<b>327-0314-00L</b>	<b>Computational Thinking Lab I</b>	<b>O</b>	<b>2 credits</b>	<b>1G</b>					
327-0314-00 G	Computational Thinking Lab I			1 hrs	Mon	13-14	HCI D8	<b>M. Kröger</b>	
<b>327-0311-00L</b>	<b>Projects and Lab Courses III</b>	<b>O</b>	<b>8 credits</b>	<b>8P</b>					
327-0311-00 P	Projekte und Praktika III ■ <i>Siehe auch separate Ankündigung.</i>			8 hrs	Tue Fri	08-18 13-18	HCI HCI	<b>M. B. Willeke</b> , L. De Pietro, T.- B. Schweizer	

### ► Bachelor Studies (Programme Regulations 2017)

#### ►► 3. Semester

#### ►►► Basic Courses Part 2

#### ►►►► Examination Block 1

*The further courses of the examination block 1, regl. 2017 (327-0309-00L Organic Chemistry in Materials Science, 402-0041-00L Physics, 551-0015-00L Biology I) were offered for the last time in HS20.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0051-00L</b>	<b>Analytical Chemistry I</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>					
529-0051-00 G	Analytische Chemie I			3 hrs	Wed Thu	08-10 08-09	HCI G3 HPH G2	<b>D. Günther</b> , M.-O. Ebert, G. Schwarz, R. Zenobi	

#### ►►►► Examination Block 2

*The further course of the examination block 2, regl. 2017 (327-0308-00L Programming Techniques in Materials Science) was offered for the last time in HS20.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-0603-00L</b>	<b>Stochastics (Probability and Statistics)</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>					
401-0603-00 V	Stochastik			2 hrs	Mon	16-18	ETA F5	<b>P. Cheridito</b>	
401-0603-00 U	Stochastik <i>Groups are selected in myStudies. Mo 18-19 oder Di 12-13 gemäss Gruppeneinteilung (für Studiengang Materialwissenschaft geht nur Mo 18-19)</i>			1 hrs	Mon	18-19	HG D5.2 HG E33.1 HG G26.5 LFW C5 ML F36	<b>P. Cheridito</b>	
<b>401-0363-10L</b>	<b>Analysis III</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>					
401-0363-10 V	Analysis III <i>Lectures in HG F7 with video transmission to HG F5. Starts in the second week of the semester.</i>			2 hrs	Thu	14-16	HG F5 HG F7	<b>A. Iozzi</b>	



401-0363-10 U	Analysis III <i>Groups are selected in myStudies. Many of the exercise classes are offered in German.</i>	1 hrs	Thu/1	16-17	CAB G56	A. Iozzi
			Thu/2	16-17	CAB G56	
			Thu/1	16-17	CAB G59	
			Thu/2	16-17	CAB G59	
					CLA E4	
			Thu/1	16-17	CLA E4	
			Thu/2	16-17	HG G26.3	
			Thu/1	16-17	HG G26.3	
					HG G26.5	
			Thu/2	16-17	HG G26.5	
			Thu/1	16-17	LFW B3	
			Thu/2	16-17	LFW B3	
					LFW E13	
			Thu/1	16-17	LFW E13	
			Thu/2	16-17	ML F40	
			Thu/1	16-17	ML F40	
			Thu/2	16-17	ML J34.1	
			Thu/1	16-17	ML J34.1	
					CAB G56	
			Thu/2	17-18	CAB G56	
					CAB G59	
			Thu/1	17-18	CAB G59	
			Thu/2	17-18	CLA E4	
			Thu/1	17-18	CLA E4	
					HG G26.3	
			Thu/2	17-18	HG G26.3	
					HG G26.5	
			Thu/1	17-18	HG G26.5	
					LFW B3	
			Thu/2	17-18	LFW B3	
					LFW E13	
			Thu/1	17-18	LFW E13	
					ML F40	
			Thu/2	17-18	ML F40	
			Thu/1	17-18	ML J34.1	
			Thu/2	17-18	ML J34.1	

#### ►►►► Additional Basic Courses

Number	Title	Type	ECTS	Hours				Lecturers
327-0311-00L	Projects and Lab Courses III	O	8 credits	8P				M. B. Willeke, L. De Pietro, T.-B. Schweizer
327-0311-00 P	Projekte und Praktika III ■ <i>Siehe auch separate Ankündigung.</i>			8 hrs	Tue Fri	08-18 13-18	HCI HCI	

#### ►► 5. Semester

#### ►►► Basic Courses Part 2

#### ►►►► Examination Block 5

Number	Title	Type	ECTS	Hours				Lecturers
327-0504-00L	Materials Characterisation Methods <i>Offered for the last time in HS 2021.</i>	O	3 credits	2V+1U				A. Hrabec
327-0504-00 V	Materials Characterisation Methods			2 hrs	Mon	10-12	HCI D8	
327-0504-00 U	Materials Characterisation Methods			1 hrs	Mon	12-13	HCI D8	A. Hrabec
327-0508-00L	Simulation Techniques in Materials Science <i>Offered for the last time in HS 2021.</i>	O	4 credits	2V+2U				C. Ederer
327-0508-00 V	Simulationstechniken in der Materialwissenschaft			2 hrs	Mon	14-16	HCI D2	
327-0508-00 U	Simulationstechniken in der Materialwissenschaft			2 hrs	Mon	16-18 27.09.	HCI G3 HCI D2	C. Ederer
327-0407-01L	Materials Physics I <i>Offered for the last time in HS 2021.</i>	O	5 credits	3V+2U				P. Gambardella
327-0407-01 V	Materials Physics I			3 hrs	Tue	14-17 24.09.	HPH G3 HPH G3	
327-0407-01 U	Materials Physics I			2 hrs	Thu	14-16	HCP E47.3 HPK D24.2	P. Gambardella

#### ►►►► Examination Block 6

Number	Title	Type	ECTS	Hours				Lecturers
327-0501-00L	Metals I <i>Offered for the last time in HS 2021.</i>	O	3 credits	2V+1U				R. Spolenak
327-0501-00 V	Metalle I			2 hrs	Tue	09-11	HPT C103	
327-0501-00 U	Metalle I			1 hrs	Tue	11-12	HPT C103	R. Spolenak
327-0502-00L	Polymers I <i>Offered for the last time in HS 2021.</i>	O	3 credits	2V+1U				M. Kröger
327-0502-00 V	Polymere I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	HCP E47.3	
327-0502-00 U	Polymere I			1 hrs	Fri	12-13	HCP E47.3	M. Kröger
327-0503-00L	Ceramics I	O	3 credits	2V+1U				

Offered for the last time in HS 2021.

327-0503-00 V	Keramik I			2 hrs	Wed	09-11	HCI H2.1	<b>M. Niederberger</b> , A. Demirörs, T. Graule
327-0503-00 U	Keramik I			1 hrs	Wed	11-12	HCI H2.1	<b>M. Niederberger</b> , A. Demirörs, T. Graule

<b>327-2131-00L</b>	<b>Materials of Life</b> <i>Offered for the last time in HS 2021.</i>	<b>O</b>	<b>3 credits</b>	<b>3G</b>				
327-2131-00 G	Materials of Life			3 hrs	Thu	16-19	HCI D2	<b>E. Dufresne</b>

### ►►► Basic Courses Part 3

Number	Title	Type	ECTS	Hours				Lecturers
<b>327-0511-00L</b>	<b>Practical Course V</b>	<b>O</b>	<b>6 credits</b>	<b>8P</b>				
327-0511-00 P	Praktikum V ■ <i>Siehe auch separate Ankündigung</i>			8 hrs	Thu Fri	08-12 14-18	HCI HCI	<b>M. B. Willeke</b> , J. F. Löffler

### ►►► Compensatory Courses

*Only possible after consultation with the Director of Studies.*

### ►► Industrial Internship or Project

Number	Title	Type	ECTS	Hours				Lecturers
<b>327-0001-00L</b>	<b>Industrial Internship</b> <i>Only for Materials Science BSc.</i>	<b>W</b>	<b>10 credits</b>					
327-0001-00 P	Industriepraktikum							external organisers
<b>327-0002-00L</b>	<b>Project</b> <i>Carrying out outside of D-MATL: Only possible after consultation with the Director of Studies.</i>	<b>W</b>	<b>10 credits</b>					
327-0002-00 P	Projekt ■					by appt.		Lecturers

### ►► Bachelor's Thesis

Number	Title	Type	ECTS	Hours				Lecturers
<b>327-0620-00L</b>	<b>Bachelor's Thesis</b> <i>Only for Materials Science BSc Programme Regulations 2017.</i>	<b>O</b>	<b>10 credits</b>	<b>17D</b>				
327-0620-00 D	Bachelor-Arbeit ■			240s hrs	Thu Fri	08-17 08-17		Professors

### ► GESS Science in Perspective

### ►► Science in Perspective

*Recommended GESS Science in Perspective (Type B) for D-MATL.*

*see GESS Science in Perspective: Type A: Enhancement of Reflection Capability*

### ►► Language Courses

*see GESS Science in Perspective: Language Courses ETH/UZH*

### Materials Science Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Materials Science Master

## ► Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
327-0505-00L	Surfaces, Interfaces and their Applications I	W	3 credits	2V+1U				N. Spencer, M. P. Heuberger, L. Isa
327-0505-00 V	Surfaces, Interfaces and their Applications I			2 hrs	Mon	09-11	HCI J7	
327-0505-00 U	Surfaces, Interfaces and their Applications I			1 hrs	Mon	11-12	HCI J7	
327-1201-00L	Transport Phenomena I	W Dr	5 credits	4G				J. Vermant
327-1201-00 G	Transport Phenomena I 14:00-15:00 Vorlesung 15:15-16:15 Übungen in zwei Gruppen 16:30-17:30 Vorlesung			4 hrs	Mon	14-18	HCP E47.3	
327-1202-00L	Solid State Physics and Chemistry of Materials I	W Dr	5 credits	4G				N. Spaldin
327-1202-00 G	Solid State Physics and Chemistry of Materials I			4 hrs	Tue Wed	14-16 10-12	HCI J6 HIL E1	
327-1203-00L	Complex Materials I: Synthesis & Assembly	W Dr	5 credits	4G				M. Niederberger, A. Lauria
327-1203-00 G	Complex Materials I: Synthesis & Assembly			4 hrs	Tue Thu	16-18 10-12	HCI D8 HCI D2	
327-1204-00L	Materials at Work I	W Dr	4 credits	4S				R. Spolenak, E. Dufresne, R. Koopmans
327-1204-00 S	Materials at Work I			4 hrs	Thu	12-16	HCI H8.1	
327-1207-00L	Engineering with Soft Materials	W Dr	5 credits	4G				J. Vermant, L. Isa
327-1207-00 G	Engineering with Soft Materials			4 hrs	Tue Fri	10-12 10-12	HCP E47.2 HCP E47.2	

## ► Elective Courses

The students are free to choose individually from the entire course offer of ETH Zürich on the Master level. Please consult the study administration in case of questions.

Number	Title	Type	ECTS	Hours				Lecturers
327-0702-00L	EM-Practical Course in Materials Science	W	2 credits	4P				K. Kunze, S. Gerstl, F. Gramm, F. Krumeich, J. Reuteler
327-0702-00 P	EM-Practical in Materials Science <i>Das Praktikum findet vom 10.-14. Januar 2022 ganztags in den Laborräumen des ScopeM (ETH Hönggerberg) statt.</i>			60s hrs				
327-0703-00L	Electron Microscopy in Material Science	W	4 credits	2V+2U				K. Kunze, R. Erni, S. Gerstl, F. Gramm, A. Käch, F. Krumeich, M. Willinger K. Kunze, R. Erni, S. Gerstl, F. Gramm, A. Käch, F. Krumeich, M. Willinger
327-0703-00 V	Electron Microscopy in Material Science			2 hrs	Fri	08-10	HCI H2.1	
327-0703-00 U	Electron Microscopy in Material Science			2 hrs	Fri	12-14	HCI H2.1	
327-1101-00L	Biom mineralization	W	2 credits	2V				K.-H. Ernst
327-1101-00 V	Biom mineralization			2 hrs	Tue	10-12	ML H34.3	
327-1221-00L	Biological and Bio-Inspired Materials <i>Students that already enroled in this course during their Bachelor's degree studies are not allowed to enrol again in their Master's.</i>	W Dr	4 credits	3G				A. R. Studart, I. Burgert, R. Nicolosi Libanori, G. Panzarasa
327-1221-00 G	Biological and Bio-Inspired Materials			3 hrs	Thu	16-19	HCP E47.4	
327-2103-00L	Advanced Composite and Adaptive Material Systems	W	4 credits	2V+2U				F. J. Clemens, B. Weisse F. J. Clemens, B. Weisse
327-2103-00 V	Advanced Composite and Adaptive Material Systems			2 hrs	Tue	14-16	HCI D6	
327-2103-00 U	Advanced Composite and Adaptive Material Systems			2 hrs	Wed	16-18	HCI D6	
327-2105-00L	Supramolecular Aspects of Polymers	W	2 credits	1G				P. J. Walde
327-2105-00 G	Supramolecular Aspects of Polymers			1 hrs	Tue	09-10	HCI F2	
327-2125-00L	Microscopy Training SEM I - Introduction to SEM <i>The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.</i>  <i>For PhD students, postdocs and others, a fee will be charged</i> <i>(<a href="http://www.scopem.ethz.ch/education/MTP.html">http://www.scopem.ethz.ch/education/MTP.html</a>).</i>  <i>All applicants must additionally register on this form: (link will follow)</i> <i>The selected applicants will be contacted</i>	W	2 credits	3P				

and asked for confirmation a few weeks before the course date.

327-2125-00 P	Microscopy Training SEM I - Introduction to SEM ■ <i>This block course will take place during 5 full days (9am-5pm) on October 25.-29., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.</i>	35s hrs	25.10. 09-12 26.10. 09-12 27.10. 09-12 29.10. 13-16	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1	<b>P. Zeng</b> , A. G. Bittermann, S. Gerstl, L. Grafulha Morales, K. Kunze, J. Reuteler
<i>The repetition (if needed) of this course will take place on Jan 24.-28., 2022.</i>					
<b>327-2126-00L</b>	<b>Microscopy Training TEM I - Introduction to TEM</b> <i>The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.</i>  <i>For PhD students, postdocs and others, a fee will be charged (<a href="http://www.scopem.ethz.ch/education/MTP.html">http://www.scopem.ethz.ch/education/MTP.html</a>).</i>  <i>All applicants must additionally register on this form: (link will follow)</i> <i>The selected applicants will be contacted and asked for confirmation a few weeks before the course date.</i>	<b>W</b>	<b>2 credits</b>	<b>3P</b>	
327-2126-00 P	Microscopy Training TEM I - Introduction to TEM <i>This block course will take place during 5 full days (9am-5pm) on November 1.-5., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.</i>	35s hrs	01.11. 09-12 02.11. 09-12 03.11. 09-12 05.11. 13-16	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1	<b>P. Zeng</b> , E. J. Barthazy Meier, A. G. Bittermann, F. Gramm, A. Sologubenko, M. Willinger
<i>The repetition (if needed) of this course will take place from 29.11.-03.12.2021.</i>					
<b>327-2127-00L</b>	<b>Sustainable Materials Management: Concepts, Methods and Principles</b>	<b>W</b>	<b>2 credits</b>	<b>1V+1U</b>	
327-2127-00 V	Sustainable Materials Management: Concepts, Methods and Principles	1 hrs	Fri/2w 14-16 24.09. 14-18	HCI J8 HCI D2	<b>P. Wäger</b> , R. Widmer
327-2127-00 U	Sustainable Materials Management: Concepts, Methods and Principles	1 hrs	Fri/2w 16-18	HCI J8	<b>P. Wäger</b> , R. Widmer
<b>327-2128-00L</b>	<b>High Resolution Transmission Electron Microscopy</b> <i>Limited number of participants. More information here: <a href="https://scopem.ethz.ch/education/MTP.html">https://scopem.ethz.ch/education/MTP.html</a></i>	<b>W</b>	<b>2 credits</b>	<b>3G</b>	
327-2128-00 G	High Resolution Transmission Electron Microscopy ■ <i>This blockcourse will take place December 7-10, 2021, in the seminar room and rooms of ScopeM.</i>	40s hrs	07.12. 09-12 08.12. 09-12 09.12. 09-17 10.12. 09-12	HIT F11.1 HIT F11.1 HIT F11.1 HIT F11.1	<b>A. Sologubenko</b> , R. Erni, R. Schaublin, M. Willinger, P. Zeng
<b>327-2129-00L</b>	<b>Analytical Electron Microscopy: EDS</b>	<b>W</b>	<b>1 credit</b>	<b>2P</b>	
327-2129-00 P	Analytical Electron Microscopy: EDS <i>Does not take place this semester. This three-days block course takes place on September 28-30, 2021, (9am-5pm) in the seminar room and rooms of ScopeM.</i>  <i>Former title: Analytical Electron Microscopy</i>		21s hrs		
<b>327-2132-00L</b>	<b>Multifunctional Ferroic Materials: Growth and Characterisation</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
327-2132-00 G	Multifunctional Ferroic Materials: Growth and Characterization	2 hrs	Mon 14-16	HCI H8.1	<b>M. Trassin</b>
<b>327-2135-00L</b>	<b>Advanced Analytical TEM</b>	<b>W Dr</b>	<b>2 credits</b>	<b>3G</b>	
327-2135-00 G	Advanced Analytical TEM <i>Does not take place this semester. Will probably be offered in a new form as of HS22.</i>		40s hrs		to be announced
<b>327-2136-00L</b>	<b>Chemical Analysis and Spectroscopy for Energy Applications</b>	<b>W Dr</b>	<b>2 credits</b>	<b>2G</b>	
327-2136-00 G	Chemical Analysis and Spectroscopy for Energy Applications	2 hrs	Mon 14-16	HCI E2	<b>A. Borgschulte</b>
<b>327-2137-00L</b>	<b>Scattering Techniques for Material Characterization</b> <i>All enrolled students are initially placed on the "waiting list" until the registration deadline. In the case of more than 12 applicants, the students will be selected by the lecturers before the start of the lecture according to the priority criteria: master students before doctoral students, Material Science students before students of other departments.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>	
327-2137-00 V	Scattering Techniques for Material Characterization	2 hrs	Wed 15-17	HCI G574	<b>T. Weber</b> , A. Sologubenko
327-2137-00 U	Scattering Techniques for Material Characterization	1 hrs	Wed 14-15	HCI G574	<b>T. Weber</b> , A. Sologubenko
<b>327-2140-00L</b>	<b>Focused Ion Beam and Applications</b> <i>Number of participants limited to 6. PhD students will be asked for a fee.</i>	<b>W Dr</b>	<b>1 credit</b>	<b>2P</b>	

Registration form: (link will follow)

327-2140-00 P	Focused Ion Beam and Applications ■ <i>This three-days block course will take place on November 15.-17.,2021 (9am-5pm) in the seminar room and rooms of ScopeM.</i>	W	5 credits	3V+2U	21s hrs	15.11. 16.11. 17.11.	09-12 09-12 15-17	HIT F11.1 HIT F11.1 n/a	<b>P. Zeng</b> , A. G. Bittermann, S. Gerstl, L. Grafulha Morales, J. Reuteler
<b>327-2143-00L</b>	<b>Computational Multi-Scale Modeling of Solids</b>	<b>W</b>	<b>5 credits</b>	<b>3V+2U</b>					
327-2143-00 V	Computational Multi-Scale Modeling of Solids			3 hrs	Wed	13-16		HIT F31.1	<b>P. Derlet</b>
327-2143-00 U	Computational Multi-Scale Modeling of Solids			2 hrs	Wed	16-18		HIL D60.1	<b>P. Derlet</b>
<b>101-0121-00L</b>	<b>Fatigue and Fracture in Materials and Structures</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
101-0121-00 G	Fatigue and Fracture in Materials and Structures <i>The lecture will primarily take place online. The reserved room will remain blocked on campus for students to follow the lecture from there. Remark: Includes a visit to Empa and laboratory tests by student at Empa laboratories.</i>			3 hrs	Tue	10-13		HCI J6	<b>E. Ghafoori</b> , A. Taras
<b>101-0617-01L</b>	<b>Advances in Building Materials</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
101-0617-01 G	Advances in Building Materials			2 hrs	Mon	14-16		HIL E7	<b>R. J. Flatt</b> , I. Burgert
<b>101-0677-00L</b>	<b>Concrete Technology</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
101-0677-00 G	Concrete Technology			2 hrs	Mon	16-18		HIL E9	<b>F. Constandopoulos</b> , M. Bäuml, G. Martinola, T. Wangler
<b>151-0353-00L</b>	<b>Mechanics of Composite Materials</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0353-00 V	Mechanics of Composite Materials			2 hrs	Thu	09-11		ML F38	<b>P. Ermanni</b> , G. Pappas, M. Sakovsky
151-0353-00 U	Mechanics of Composite Materials			1 hrs	Thu	11-12		ML F38	<b>P. Ermanni</b> , G. Pappas, M. Sakovsky
<b>151-0544-00L</b>	<b>Metal Additive Manufacturing - Mechanical Integrity and Numerical Analysis</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0544-00 G	Metal Additive Manufacturing - Mechanical Integrity and Numerical Analysis			3 hrs	Mon	10-13		CAB G51	<b>E. Hosseini</b>
<b>151-0550-00L</b>	<b>Adaptive Materials for Structural Applications</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0550-00 G	Adaptive Materials for Structural Applications <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue	09-12		LEE D105	<b>A. Bergamini</b>
<b>151-0605-00L</b>	<b>Nanosystems</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
151-0605-00 G	Nanosystems <i>Lecture: Thursday 10-13. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there. Exercises: will take place in the laboratories.</i>			4 hrs	Thu	10-13		ML F40	<b>A. Stemmer</b>
<b>227-0617-00L</b>	<b>Solar Cells</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0617-00 G	Solar Cells			3 hrs	Wed	09-12		HG D7.2	<b>A. N. Tiwari</b> , R. Carron, Y. Romanyuk
<b>227-0619-00L</b>	<b>Charge Transport in Energy Conversion and Storage Devices</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0619-00 V	Charge Transport in Energy Conversion and Storage Devices			2 hrs	Fri	10-12		CAB G11	<b>C. Battaglia</b>
227-0619-00 U	Charge Transport in Energy Conversion and Storage Devices			2 hrs	Fri 24.09.	12-14 12-14		CAB G11 ML E12	<b>C. Battaglia</b>
<b>376-1103-00L</b>	<b>Frontiers in Nanotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>4V</b>					
376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri	10-12 14-16		HCP E47.3 HCP E47.3	<b>V. Vogel</b> , further lecturers
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>					
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h Übungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12		HG G3	<b>K. Maniura</b> , M. Rottmar, M. Zenobi-Wong
<b>402-0317-00L</b>	<b>Semiconductor Materials: Fundamentals and Fabrication</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0317-00 V	Semiconductor Materials: Fundamentals and Fabrication			2 hrs	Tue	14-16		HCI D2	<b>S. Schön</b> , <b>W. Wegscheider</b>
402-0317-00 U	Semiconductor Materials: Fundamentals and Fabrication			1 hrs	Tue	16-17		HCI D2	<b>S. Schön</b> , <b>W. Wegscheider</b>
<b>402-0535-00L</b>	<b>Introduction to Magnetism</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
402-0535-00 G	Introduction to Magnetism			3 hrs	Mon	16-19		HIL E6	<b>A. Vindigni</b>
<b>402-0595-00L</b>	<b>Semiconductor Nanostructures</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0595-00 V	Semiconductor Nanostructures			2 hrs	Wed	12-14		HCI J4	<b>T. M. Ihn</b>
402-0595-00 U	Semiconductor Nanostructures <i>or by appointment</i>			1 hrs	Wed	14-15		HIT J51 HIT K52	<b>T. M. Ihn</b>
<b>402-0809-00L</b>	<b>Introduction to Computational Physics</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U</b>					
402-0809-00 V	Introduction to Computational Physics			2 hrs	Tue	10-12		HCI J7	<b>A. Adelman</b>
402-0809-00 U	Introduction to Computational Physics			2 hrs	Tue	08-10		HCI J7	<b>A. Adelman</b>

529-0659-00L	Electrochemistry: Fundamentals, Cells & Applications	W	6 credits	3G				
529-0659-00 G	Electrochemistry: Fundamentals, Cells & Applications			3 hrs	Mon	09-12	HPT C103	L. Gubler
752-2314-00L	Physics of Food Colloids	W	3 credits	2V				
752-2314-00 V	Physics of Food Colloids			2 hrs	Tue	10-12	ML F36	P. A. Fischer, R. Mezzenga
► Projects								
Number	Title	Type	ECTS	Hours	Lecturers			
327-1210-00L	Project I	O	12 credits	23A				
327-1210-00 A	Project I Ausführung in der Regel während der vorlesungsfreien Zeit			320s hrs	Professors			
327-1211-00L	Project II	O	12 credits	23A				
327-1211-00 A	Project II Ausführung in der Regel während der vorlesungsfreien Zeit			320s hrs	Professors			
► Master's Thesis								
Number	Title	Type	ECTS	Hours	Lecturers			
327-9000-00L	Master's Thesis Only students who fulfill the following criteria are allowed to begin with their master thesis: a. successful completion of the bachelor programme; b. fulfilling of any additional requirements necessary to gain admission to the master programme.	O	30 credits	64D				
327-9000-00 D	Master's Thesis			900s hrs by appt.	Professors			
► GESS Science in Perspective								
	see GESS Science in Perspective: Language Courses ETH/UZH							
	see GESS Science in Perspective: Type A: Enhancement of Reflection Capability							
	Recommended GESS Science in Perspective (Type B) for D-MATL.							
► Course Units for Additional Admission Requirements								
The courses below are only available for MSc students with additional admission requirements.								
Number	Title	Type	ECTS	Hours	Lecturers			
327-0503-AAL	Ceramics I Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	E-	3 credits	6R				
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.							
327-0503-AA R	Ceramics I Self-study course. No presence required.			90s hrs	M. Niederberger, A. Demirörs, T. Graule			
327-0502-AAL	Polymers I Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	E-	3 credits	6R				
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.							
327-0502-AA R	Polymers I Self-study course. No presence required.			90s hrs	M. Kröger			
327-0606-AAL	Polymers II Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	E-	3 credits	6R				
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.							
327-0606-AA R	Polymers II Self-study course. No presence required.			90s hrs	T. A. Tervoort, T.-B. Schweizer			
327-0501-AAL	Metals I Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	E-	3 credits	6R				
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.							

327-0501-AA R	Metals I <i>Self-study course. No presence required.</i>			90s hrs	R. Spolenak
327-0612-AAL	<b>Metals II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	
327-0612-AA R	Metals II <i>Self-study course. No presence required.</i>			90s hrs	R. Spolenak
327-0610-AAL	<b>Advanced Composites</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	
327-0610-AA R	Advanced Composites <i>Self-study course. No presence required.</i>			90s hrs	F. J. Clemens, A. Winistörfer

#### Materials Science Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

## Mathematics (General Courses)

### ► Generally Accessible Seminars and Colloquia

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-5000-00L</b>	<b>Zurich Colloquium in Mathematics</b>	<b>E-</b>	<b>0 credits</b>					
401-5000-00 K	Zurich Colloquium in Mathematics <b>**together with University of Zurich**</b> More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50027684">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50027684</a>  Place: Zoom Time: 16:30-17:30 <a href="https://math.ethz.ch/news-and-events/events/research-seminars/zurich-colloquium-in-mathematics.html?s=hs21">https://math.ethz.ch/news-and-events/events/research-seminars/zurich-colloquium-in-mathematics.html?s=hs21</a>			4s hrs	Tue	16-17	UNI ZH.	<b>R. Abgrall, M. Iacobelli,</b> A. Bandeira, A. Iozzi, S. Mishra, R. Pandharipande, University lecturers
<b>401-5960-00L</b>	<b>Colloquium on Mathematics, Computer Science, and Education</b> Subject didactics for mathematics and computer science teachers.	<b>E-</b>	<b>0 credits</b>					
401-5960-00 K	Kolloquium über Mathematik, Informatik und Unterricht Programm: <a href="https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html">https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html</a>			4s hrs				<b>N. Hungerbühler,</b> M. Akveld, D. Grawehr Morath, J. Hromkovic, P. Spindler

### ► Actuary SAA Education at ETH Zurich

Further pieces of information are available at Prof. M. Wüthrich's secretariat, HG F 42.

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-3925-00L</b>	<b>Non-Life Insurance: Mathematics and Statistics</b>	<b>W</b>	<b>8 credits</b>	<b>4V+1U</b>				
401-3925-00 V	Non-Life Insurance: Mathematics and Statistics			4 hrs	Mon Tue	16-18 13-15	HG D7.1 HG D7.1	<b>M. V. Wüthrich</b>
401-3925-00 U	Non-Life Insurance: Mathematics and Statistics			1 hrs	Tue	15-16	HG D7.1	<b>M. V. Wüthrich</b>
<b>401-3922-00L</b>	<b>Life Insurance Mathematics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
401-3922-00 V	Life Insurance Mathematics			2 hrs	Fri	16-18	HG E1.1	<b>M. Koller</b>
<b>401-3929-00L</b>	<b>Financial Risk Management in Social and Pension Insurance</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
401-3929-00 V	Financial Risk Management in Social and Pension Insurance			2 hrs	Wed	16-18	HG D7.2	<b>P. Blum</b>
<b>401-3928-00L</b>	<b>Reinsurance Analytics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
401-3928-00 V	Reinsurance Analytics			2 hrs	Tue	16-18	HG E1.1	<b>P. Antal, P. Arbenz</b>
<b>401-3927-00L</b>	<b>Mathematical Modelling in Life Insurance</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
401-3927-00 V	Mathematical Modelling in Life Insurance			2 hrs	Thu	16-18	HG E1.1	<b>T. J. Peter</b>
<b>401-3913-01L</b>	<b>Mathematical Foundations for Finance</b>	<b>W</b>	<b>4 credits</b>	<b>3V+2U</b>				
401-3913-01 V	Mathematical Foundations for Finance **together with University of Zurich**			3 hrs	Tue Thu	08-10 13-14	HG G5 HG G5	<b>B. Acciaio</b>
401-3913-01 U	Mathematical Foundations for Finance Groups are selected in myStudies. **together with University of Zurich** Fri 8-10 or Fri 10-12  Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from Zentrum campus.			2 hrs	Fri	08-10 10-12	HG D7.1 HG D3.2	<b>B. Acciaio</b>
<b>363-0565-00L</b>	<b>Principles of Macroeconomics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
363-0565-00 V	Principles of Macroeconomics Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.			2 hrs	Tue	16-18	ETA F5 ETF E1	<b>J.-E. Sturm</b>

#### Mathematics (General Courses) - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate



#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Mathematics Bachelor

## ► Bachelor Studies (Programme Regulations 2021)

### ►► First Year Compulsory Courses

#### ►►► First Year Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-1261-07L</b>	<b>Analysis I: One Variable</b>	<b>O</b>	<b>10 credits</b>	<b>6V+3U</b>				
401-1261-07 V	Analysis I: eine Variable <i>Mi im HG F1 mit Videoübertragung ins HG F3. Mo und Do im ETA F 5 mit Videoübertragung im ETF E 1</i>			6 hrs	Mon	08-10	ETA F5 ETF E1	<b>M. Einsiedler</b>
					Wed	08-10	HG F1 HG F3	
					Thu	08-10	ETA F5 ETF E1	
401-1261-07 U	Analysis I: eine Variable <i>Groups are selected in myStudies. Übungen Fr 8-10 (Studiengänge Mathematik bzw. Physik) oder Fr 12-14. Dritte Übungsstunde Mi 12-13 oder Mi 13-14 gemäss Gruppeneinteilung. Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>			3 hrs	Wed	12-13	HG E33.1 HG E33.3 HG E33.5 HG F26.5 ML F34 ML F38 ML F40 ML H41.1 ML J34.1 ML J34.3	<b>M. Einsiedler</b>
						13-14	HG E33.1 HG E33.3 HG E33.5 HG F26.5 ML F34 ML F38 ML F40 ML H41.1 ML J34.1 ML J34.3	
					Fri	08-10	CAB G52 CAB G56 CHN D44 CHN D46 CHN D48 CLA E4 ETZ H91 HG G26.3 IFW A34 IFW C31 IFW C33 LEE C104 LEE C114 LEE D101 LEE D105 LFW B3 ML J34.1 ML J34.3 ML J37.1 HCI H8.1	
						12-14		
<b>402-1701-00L</b>	<b>Physics I</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>				
402-1701-00 V	Physik I <i>Findet im HPH G1 statt mit Videoübertragung Di 10-12 ins HCI G7 und Do 14-16 ins HCI J7</i>			4 hrs	Tue	10-12	HCI G7 HPH G1	<b>K. Ensslin</b>
					Thu	14-16	HCI J7 HPH G1	
402-1701-00 U	Physik I <i>Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>			2 hrs	Thu	12-14	HCI D4 HCI D6 HCI E2 HCI E8 HCI F2 HCI J8 HCP E47.3 HCP E47.4 HIL B21 HIL D10.2 HIL D60.1 HIL E10.1 HIL E5 HIL F10.3 HIT F31.2 HIT F32 HIT H42 HIT J51 HIT J53 HIT K51 HIT K52 HPK D24.2 HPK D3 HPL D34 HPT C103	<b>K. Ensslin</b>

<b>252-0847-00L</b>	<b>Computer Science</b>	<b>O</b>	<b>5 credits</b>	<b>2V+2U</b>					
252-0847-00 V	Informatik <i>Vorlesung im HG F7 mit Videoübertragung ins HG F5.</i>			2 hrs	Tue	14-16	HG F5 HG F7	<b>R. Sasse,</b> F. O. Friedrich Wicker	
252-0847-00 U	Informatik <i>Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>			2 hrs	Tue	16-18	CAB G59 CHN D48 CHN E42 HG E21 HG E33.1 HG E33.5 HG F26.5 LFW C4	<b>R. Sasse,</b> F. O. Friedrich Wicker	
					Wed	10-12	CHN G46 HG D3.1 HG D3.3 HG D5.1 HG D5.3 HG E21 HG E33.5 HG G26.1 HG G26.3 LFW E41 LFW E13 ML H41.1 ML H34.3		
						16-18			

### ►►► First Year Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-1151-00L</b>	<b>Linear Algebra I</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>				
401-1151-00 V	Lineare Algebra I <i>Vorlesung im HG F7 mit Videoübertragung ins HG F5.</i>			4 hrs	Mon	10-12	HG F5 HG F7	<b>R. Pink</b>
					Wed	14-16	HG F5 HG F7	
401-1151-00 U	Lineare Algebra I <i>Groups are selected in myStudies. Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>			2 hrs	Mon	14-16	CAB G56 CAB G59 CHN D42 CHN D48 CHN G22 HG D5.2 HG E33.1 HG E33.5 HG G26.3 IFW C31 IFW C33 LEE C104 LEE D101 LFW C11 LFW E13 ML F39 ML H41.1 ML J34.3 ML J37.1 RZ F21	<b>R. Pink</b>

### ► Bachelor Studies (Programme Regulations 2016)

#### ►► First Year

Course units of the first year can be found in section Bachelor Studies (Programme Regulations 2021) - First Year Compulsory Courses.

#### ►► Compulsory Courses

#### ►►► Examination Block I

In Examination Block I either the course unit 402-2883-00L Physics III or the course unit 402-2203-01L Classical Mechanics must be chosen and registered for an examination. (Students may also enrol for the other of the two course units; within the ETH Bachelor's programme in mathematics, this other course unit cannot be registered in myStudies for an examination nor can it be recognised for the Bachelor's degree.)

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-2303-00L</b>	<b>Complex Analysis</b>	<b>O</b>	<b>6 credits</b>	<b>3V+2U</b>				
401-2303-00 V	Funktionentheorie			3 hrs	Tue	10-12	NO C60	<b>T. H. Willwacher</b>
					Fri	11-12	NO C60	
401-2303-00 U	Funktionentheorie <i>Groups are selected in myStudies.</i>			2 hrs	Tue	14-16	ETZ E6 HG E33.1 HG G26.3 IFW A32.1 LEE C104 LEE D101 LEE D105 LFW C11 ML F38 ML J34.3 NO C44 NO C6	<b>T. H. Willwacher</b>
<b>401-2333-00L</b>	<b>Methods of Mathematical Physics I</b>	<b>O</b>	<b>6 credits</b>	<b>3V+2U</b>				
401-2333-00 V	Methoden der mathematischen Physik I			3 hrs	Wed	08-10	NO C60	<b>G. Felder</b>
					Fri	10-11	NO C60	

401-2333-00 U	Methoden der mathematischen Physik I <i>Groups are selected in myStudies.</i>			2 hrs	Tue	16-18	CAB G52 CHN G46 HG G26.3 IFW A32.1 LEE D101 LEE D105 LFW C11 ML F38 ML J34.1 ML J34.3 NO C44 NO C6	<b>G. Felder</b>
<b>402-2883-00L</b>	<b>Physics III</b>	<b>W</b>	<b>7 credits</b>	<b>4V+2U</b>				
402-2883-00 V	Physik III (Physics III)			4 hrs	Mon Thu	09-11 12-14	HPH G2 HPH G2	<b>U. Keller</b>
402-2883-00 U	Physik III (Physics III) <i>Possible options to be discussed when lecture starts: Language English, German and even Italian or French is possible</i>			2 hrs	Thu	10-12	HCI D4 HCI F2 HCP E47.4 HIL D60.1 HIL E5 HIL F10.3 HIT F31.1 HIT F32 HIT H42 HIT J51 HIT J53 HIT K51 HPL D34	<b>U. Keller</b>
<b>402-2203-01L</b>	<b>Classical Mechanics</b>	<b>W</b>	<b>7 credits</b>	<b>4V+2U</b>				
402-2203-01 V	Allgemeine Mechanik <i>Die erste Vorlesung (23.09.21) findet im HCI G 7 statt, danach im HPH G 3 bzw. HIL E 3.</i>			4 hrs	Mon Thu	12-14 14-16 23.09.	HPH G3 HIL E3 HCI G7	<b>R. Renner</b>
402-2203-01 U	Allgemeine Mechanik <i>Die Übungen beginnen in der 2. Semesterwoche.</i>			2 hrs	Tue  Wed  Fri	08-10  10-12  14-16	CHN D42 CHN D48 CHN E46 HG E33.1 LFW C1 ML F40 ML J34.1 ML J34.3 ML J37.1 HIL C10.2 HPL D32 HPL D34	<b>R. Renner</b>
<b>252-0851-00L</b>	<b>Algorithms and Complexity</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>				
252-0851-00 V	Algorithmen und Komplexität			2 hrs	Tue	08-10	HG D1.2	<b>J. Lengler, A. Steger</b>
252-0851-00 U	Algorithmen und Komplexität <i>Groups are selected in myStudies.</i>			1 hrs	Wed	12-13  13-14	CHN D44 CHN D46 CHN E42 CHN D44 CHN D46 CHN E42	<b>J. Lengler, A. Steger</b>

## ▶▶▶ Examination Block II

Number	Title	Type	ECTS	Hours	Lecturers			
<b>401-2003-00L</b>	<b>Algebra I</b> <i>The two-semester course Algebra I / Algebra II is offered for the last time in its current version in the Autumn Semester 2021 / Spring Semester 2022.</i>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>				
401-2003-00 V	Algebra I			4 hrs	Wed Fri	14-16 08-10	HG G5 HG G5	<b>L. Halbeisen</b>
401-2003-00 U	Algebra I <i>Groups are selected in myStudies.</i>			2 hrs	Wed	16-18	HG D5.2 HG E33.3 HG F26.5 HG G26.5 LFW C1	<b>L. Halbeisen</b>

## ▶ Core Courses

### ▶▶ Core Courses: Pure Mathematics

Number	Title	Type	ECTS	Hours	Lecturers			
<b>401-3531-00L</b>	<b>Differential Geometry I</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study</i>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				

Administration Office  
([www.math.ethz.ch/studiensekretariat](http://www.math.ethz.ch/studiensekretariat)) after  
having received the credits.

401-3531-00 V	Differential Geometry I	4 hrs	Mon Wed	14-16 14-16	ML H44 HG E5	J. Serra
401-3531-00 U	Differential Geometry I Groups are selected in myStudies. Thu 13-14 or Thu 16-17 or Fri 13-14	1 hrs	Thu Fri	13-14 16-17 13-14	HG E22 IFW C31 HG F3	J. Serra

Core Courses: Pure Mathematics  
(Mathematics Master)

<b>401-3461-00L</b>	<b>Functional Analysis I</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (<a href="http://www.math.ethz.ch/studiensekretariat">www.math.ethz.ch/studiensekretariat</a>) after having received the credits.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				
401-3461-00 V	Functional Analysis I			4 hrs	Mon Thu	10-12 14-16	HG D7.1 HG G5	<b>J. Teichmann</b>
401-3461-00 U	Functional Analysis I <i>Groups are selected in myStudies.</i>			1 hrs	Mon	09-10	HG G26.1 HG G26.5 ML J34.1	<b>J. Teichmann</b>
<b>401-3001-61L</b>	<b>Algebraic Topology I</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>				
401-3001-61 G	Algebraic Topology I			4 hrs	Wed Fri	10-12 14-16	HG E1.1 HG E1.1	<b>W. Merry</b>
<b>401-3132-00L</b>	<b>Commutative Algebra</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				
401-3132-00 V	Commutative Algebra			4 hrs	Wed Fri	16-18 08-10	HG E1.1 HG E5	<b>E. Kowalski</b>
401-3132-00 U	Commutative Algebra			1 hrs	Thu	09-10 12-13	HG E1.2 HG E1.2	<b>E. Kowalski</b>

## ►► Core Courses: Applied Mathematics and Further Appl.-Oriented Fields

Number	Title	Type	ECTS	Hours	Lecturers			
401-3651-00L	<b>Numerical Methods for Elliptic and Parabolic Partial Differential Equations (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: MAT802</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a>Course audience at ETH:</i>  <i>3rd year ETH BSc Mathematics and MSc Mathematics and MSc Applied Mathematics students. Other ETH-students are advised to attend the course "Numerical Methods for Partial Differential Equations" (401-0674-00L) in the CSE curriculum during the spring semester.</i>	W	9 credits	4V				
401-3651-00 V	Numerical Methods for Elliptic and Parabolic Partial Differential Equations (University of Zurich) <b>**Course at University of Zurich**</b>			4 hrs	Wed Thu	10-12 08-10	UNI ZH. UNI ZH.	<b>S. Sauter</b>
401-3601-00L	<b>Probability Theory</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (<a href="http://www.math.ethz.ch/studiensekretariat">www.math.ethz.ch/studiensekretariat</a>) after having received the credits.</i>	W	10 credits	4V+1U				
401-3601-00 V	Probability Theory			4 hrs	Tue Thu	10-12 10-12	HG D1.2 HG E3	<b>W. Werner</b>

401-3601-00 U	Probability Theory <i>Groups are selected in myStudies. Tue 14-15 or Tue 15-16 starting in the second week of the semester.</i>	1 hrs	Tue	14-15	HG F26.5 ML H41.1	<b>W. Werner</b>
401-3621-00 V	Fundamentals of Mathematical Statistics	4 hrs	Tue Wed	08-10 10-12	HG E5 HG E7	<b>S. van de Geer</b>
401-3621-00 U	Fundamentals of Mathematical Statistics	1 hrs	Tue	12-13	HG D7.1 HG E7	<b>S. van de Geer</b>
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>	4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	<b>R. Zenklusen</b>
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>	2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>
401-3622-00 G	Statistical Modelling	4 hrs	Mon Thu	10-12 14-16	ML D28 HG E1.1	<b>C. Heinze-Deml</b>
252-0057-00 V	Theoretische Informatik	4 hrs	Tue Fri	08-10 08-10	HG E7 HG E7	<b>J. Hromkovic, H.-J. Böckenhauer</b>
252-0057-00 U	Theoretische Informatik	2 hrs	Tue	14-16	CAB G52 CAB G59 HG E22 LFW C4 ML J37.1 CAB G52 CAB G57 CAB G59 CHN D48 ETZ E7 ETZ G91 HG D3.3 HG D5.1 HG D5.3 HG E33.5 HG F26.5	<b>J. Hromkovic, H.-J. Böckenhauer</b>
252-0209-00 V	Algorithms, Probability, and Computing	4 hrs	Mon Tue	14-16 14-16	ML D28 ML D28	<b>B. Gärtner, M. Ghaffari, R. Kyng, A. Steger, D. Steurer</b>
252-0209-00 U	Algorithms, Probability, and Computing	2 hrs	Wed	14-16 16-18	CAB G56 CAB G57 CAB G56	<b>B. Gärtner, M. Ghaffari, R. Kyng, A. Steger, D. Steurer</b>
252-0209-00 A	Algorithms, Probability, and Computing <i>Project Work, no fixed presence required.</i>	1 hrs				<b>B. Gärtner, M. Ghaffari, R. Kyng, A. Steger, D. Steurer</b>

*Core Courses: Applied Mathematics and Further Appl.-Oriented Fields (Mathematics Master)*

## ►► Core Courses: Further Application-Oriented Fields

*For the category assignment take contact with the Study Administration Office ([www.math.ethz.ch/studiensekretariat](http://www.math.ethz.ch/studiensekretariat)) after having received the credits.*

Number	Title	Type	ECTS	Hours	Lecturers
402-0205-00 L	Quantum Mechanics I	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>	
402-0205-00 V	Quantenmechanik I			3 hrs	Tue Thu
402-0205-00 U	Quantenmechanik I <i>Do 10-12 oder Do 16-18</i>			2 hrs	Thu
					10-12 12-13 10-12 16-18
					HPV G4 HPV G4 HCI H8.1 HIT F31.2 HIT K52 HPK D24.2 HIL B21 HIL E10.1 HIT K51 HPK D24.2
					<b>M. Gaberdiel</b> <b>M. Gaberdiel</b>

## ► Electives

### ►► Selection: Algebra, Number Thy, Topology, Discrete Mathematics, Logic

Number	Title	Type	ECTS	Hours	Lecturers
401-3059-00 L	Combinatorics II	<b>W</b>	<b>4 credits</b>	<b>2G</b>	
401-3059-00 G	Kombinatorik II			2 hrs	Wed
401-3033-00 L	Gödel's Theorems	<b>W</b>	<b>8 credits</b>	<b>3V+1U</b>	
401-3033-00 V	Die Gödel'schen Sätze			3 hrs	Tue Wed
401-3033-00 U	Die Gödel'schen Sätze			1 hrs	Wed
					18-20 14-16 12-13 13-14
					HG D3.2 ML F39 HG G3 HG G3
					<b>N. Hungerbühler</b> <b>L. Halbeisen</b> <b>L. Halbeisen</b>

## ►► Selection: Geometry

Number	Title	Type	ECTS	Hours	Lecturers			
401-3057-00L	Finite Geometries II	W	4 credits	2G	N. Hungerbühler			
401-3057-00 G	Endliche Geometrien II <i>Does not take place this semester.</i>			2 hrs				
401-4207-71L	Coxeter Groups from a Geometric Viewpoint	W	4 credits	2V	CLA E4			
401-4207-71 V	Coxeter Groups from a Geometric Viewpoint <i>lecturer M. Cordes</i>			2 hrs				

## ►► Selection: Analysis

*No offering in this semester yet*

## ►► Selection: Numerical Analysis

*No offering in this semester yet*

## ►► Selection: Probability Theory, Statistics

Number	Title	Type	ECTS	Hours				Lecturers
401-3627-00L	High-Dimensional Statistics	W	4 credits	2V				P. L. Bühlmann
401-3627-00 V	High-Dimensional Statistics			2 hrs	Thu	08-10	CAB G61	
401-4623-00L	Time Series Analysis	W	6 credits	3G				F. Balabdaoui
401-4623-00 G	Time Series Analysis <i>Does not take place this semester.</i>			3 hrs				
401-0625-01L	Applied Analysis of Variance and Experimental Design	W	5 credits	2V+1U				L. Meier
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon	14-16	HG G5	
401-0625-01 U	Applied Analysis of Variance and Experimental Design			1 hrs	Mon/2w	16-18	HG E1.1	L. Meier
401-0649-00L	Applied Statistical Regression	W	5 credits	2V+1U				M. Dettling
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon	08-10	HG E1.2	
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>			1 hrs	Mon/2w	10-12	HG E1.2	M. Dettling
401-3628-14L	Bayesian Statistics	W	4 credits	2V				F. Sigrist
401-3628-14 V	Bayesian Statistics			2 hrs	Tue	16-18	HG G3	

## ►► Selection: Financial and Insurance Mathematics

*In the Bachelor's programme in Mathematics 401-3913-01L Mathematical Foundations for Finance is eligible as an elective course, but only if 401-3888-00L Introduction to Mathematical Finance isn't recognised for credits (neither in the Bachelor's nor in the Master's programme). For the category assignment take contact with the Study Administration Office ([www.math.ethz.ch/studiensekretariat](http://www.math.ethz.ch/studiensekretariat)) after having received the credits.*

Number	Title	Type	ECTS	Hours				Lecturers	
401-3922-00L	Life Insurance Mathematics	W	4 credits	2V					M. Koller
401-3922-00 V	Life Insurance Mathematics			2 hrs	Fri	16-18	HG E1.1		
401-3925-00L	Non-Life Insurance: Mathematics and Statistics	W	8 credits	4V+1U					M. V. Wüthrich
401-3925-00 V	Non-Life Insurance: Mathematics and Statistics			4 hrs	Mon Tue	16-18 13-15	HG D7.1 HG D7.1		
401-3925-00 U	Non-Life Insurance: Mathematics and Statistics			1 hrs	Tue	15-16	HG D7.1	M. V. Wüthrich	
401-3927-00L	Mathematical Modelling in Life Insurance	W	4 credits	2V					T. J. Peter
401-3927-00 V	Mathematical Modelling in Life Insurance			2 hrs	Thu	16-18	HG E1.1		
401-3928-00L	Reinsurance Analytics	W	4 credits	2V					P. Antal, P. Arbenz
401-3928-00 V	Reinsurance Analytics			2 hrs	Tue	16-18	HG E1.1		

## ►► Selection: Mathematical Physics, Theoretical Physics

Number	Title	Type	ECTS	Hours				Lecturers
402-0830-00L	General Relativity <i>Special Students UZH must book the module PHY511 directly at UZH.</i>	W	10 credits	4V+2U				
402-0830-00 V	General Relativity <i>**together with University of Zurich**</i>			4 hrs	Tue Thu	16-18 12-14	HPV G5 HPV G5	C. Anastasiou
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there."</i>							
402-0830-00 U	General Relativity <i>**together with University of Zurich**</i>			2 hrs	Thu     Fri	16-18     12-14	HIT F31.1 HIT F31.2 HIT J53 HIT K52 HCI D2 HCI D8 HIL F10.3 HIT J52	C. Anastasiou

## ►► Selection: Mathematical Optimization, Discrete Mathematics

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>				
401-3055-64 V	Algebraic Methods in Combinatorics			2 hrs	Wed	10-12	IFW A36	<b>B. Sudakov</b>
401-3055-64 U	Algebraic Methods in Combinatorics			1 hrs	Mon	12-13	ML F34	<b>B. Sudakov</b>
						13-14	ML F34	
<b>►► Auswahl: Theoretical Computer Science</b>								
Number	Title	Type	ECTS	Hours				Lecturers
<b>252-0417-00L</b>	<b>Randomized Algorithms and Probabilistic Methods</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0417-00 V	Randomized Algorithms and Probabilistic Methods			3 hrs	Wed	08-09	ML D28	<b>A. Steger</b>
					Thu	16-18	ML D28	
252-0417-00 U	Randomized Algorithms and Probabilistic Methods			2 hrs	Tue	14-16	HG D1.2	<b>A. Steger</b>
						16-18	HG D1.2	
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>			4 hrs				<b>A. Steger</b>
<b>252-1425-00L</b>	<b>Geometry: Combinatorics and Algorithms</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
252-1425-00 V	Geometry: Combinatorics and Algorithms			3 hrs	Mon	13-14	CAB G51	<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
					Thu	14-16	CAB G51	
252-1425-00 U	Geometry: Combinatorics and Algorithms			2 hrs	Mon	14-16	CAB G51	<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
					23.09.	16-18	CAB G51	
					30.09.	16-18	CAB G51	
252-1425-00 A	Geometry: Combinatorics and Algorithms <i>Project Work, no fixed presence required.</i>			2 hrs				<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
<b>263-4500-00L</b>	<b>Advanced Algorithms</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>				
263-4500-00 V	Advanced Algorithms <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Wed	09-12	HG D5.2	<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 U	Advanced Algorithms			2 hrs	Fri	10-12	CAB G59	<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 A	Advanced Algorithms			3 hrs				<b>M. Ghaffari, G. Zuzic</b>
<b>►► Selection: Further Realms</b>								
Number	Title	Type	ECTS	Hours				Lecturers
<b>401-3502-71L</b>	<b>Reading Course</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	<b>W</b>	<b>2 credits</b>	<b>4A</b>				
401-3502-00 A	Reading Course (2 KP) ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.			Supervisors
<b>401-3503-71L</b>	<b>Reading Course</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	<b>W</b>	<b>3 credits</b>	<b>6A</b>				
401-3503-00 A	Reading Course (3 KP) ■ <i>Permission from lecturers required for all students</i>			90s hrs	by appt.			Supervisors
<b>401-3504-71L</b>	<b>Reading Course</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	<b>W</b>	<b>4 credits</b>	<b>9A</b>				
401-3504-00 A	Reading Course (4 KP) ■ <i>Permission from lecturers required for all students</i>			120s hrs	by appt.			Supervisors
<b>401-0000-00L</b>	<b>Communication in Mathematics</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>				
401-0000-00 V	Communication in Mathematics <i>Does not take place this semester.</i>			1 hrs				<b>W. Merry</b>
<b>►► Core Courses and Electives (Mathematics Master)</b>								
<i>Core Courses (Mathematics Master)</i>								
<i>Electives (Mathematics Master)</i>								



## ► Seminars

*NOTICE: The number of seminar places is limited, and the special selection procedure should help to allocate the places not primarily according to the registration time. Everybody is waitlisted first when he/she tries to register for a seminar in myStudies. Moreover: Only one mathematics seminar can be chosen per semester.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-3050-71L</b>	<b>Student Seminar in Combinatorics</b> <i>Number of participants limited to 12.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-3050-71 S	Student Seminar in Combinatorics			2 hrs	Fri	14-16	ML H34.3	<b>B. Sudakov</b>
<b>401-3110-71L</b>	<b>Student Seminar in Elementary Number Theory</b> <i>Number of participants limited to 22.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-3110-71 S	Student Seminar in Elementary Number Theory			2 hrs	Thu 23.09. 11.11.	12-14 12-14 12-14	HG G19.1 HG G19.2 HG G19.2	<b>Ö. Imamoglu</b>
<b>401-3100-71L</b>	<b>Student Seminar in Number Theory: L-Functions</b> <i>Number of participants limited to 24.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-3100-71 S	Student Seminar in Number Theory: L-Functions			2 hrs	Tue 21.09. 28.09.	12-14 12-14 12-14	NO C6 HG F26.5 HG F26.5	<b>M. Schwagenscheidt</b>
<b>401-3550-71L</b>	<b>Student Seminar in Topological Data Analysis</b> <i>Number of participants limited to 12.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-3550-71 S	Student Seminar in Topological Data Analysis <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Tue	16-18	HG D3.1	<b>S. Kalisnik Hintz</b>
<b>401-3140-71L</b>	<b>Student Seminar in Algebraic Geometry: Complex Algebraic Surfaces</b> <i>Number of participants limited to 12.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-3140-71 S	Student Seminar in Algebraic Geometry: Complex Algebraic Surfaces			2 hrs	Fri	12-14	HG F26.5	<b>T.-H. Bülles, R. Pandharipande</b>
<b>401-3940-71L</b>	<b>Student Seminar in Mathematics and Data: Stochastic Optimization</b> <i>Number of participants limited to 12.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-3940-00 S	Student Seminar in Mathematics and Data: Stochastic Optimization <i>Advisors: Prof. A. Bandeira, Dr. G. Chinot and Dr. N. Zhivotovskii</i>			2 hrs	Thu	14-16	HG G19.2	<b>A. Bandeira</b>
<b>401-3620-20L</b>	<b>Student Seminar in Statistics: Inference in Some Non-Standard Regression Problems</b> <i>Number of participants limited to 24. Mainly for students from the Mathematics Bachelor and Master Programmes who, in addition to the introductory course unit 401-2604-00L Probability and Statistics, have heard at least one core or elective course in statistics. Also offered in the Master Programmes Statistics resp. Data Science.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-3620-00 S	Student Seminar in Statistics: Inference in Some Non-Standard Regression Problems <i>Remark: former title in FS 2020: Student Seminar in Statistics: Inference in Non-Classical Regression Models</i>			2 hrs	Mon	16-18	HG E21	<b>F. Balabdaoui, P. L. Bühlmann, M. H. Maathuis, N. Meinshausen, S. van de Geer</b>

*Seminars (Mathematics Master)*

## ► Minor Courses (Programme Regulations 2016)

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-1511-00L</b>	<b>Geometry</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>				
401-1511-00 V	Geometrie <i>Wird im HS 2021 letztmals angeboten.</i>			2 hrs	Fri	14-16	HG F5	<b>T. Ilmanen</b>
401-1511-00 U	Geometrie <i>Groups are selected in myStudies.</i>			1 hrs	Mon/2w	16-18	CHN G42 CLA E4 LEE D101	<b>T. Ilmanen</b>
<b>401-2113-71L</b>	<b>Sums of Squares</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
401-2113-71 G	Summen von Quadraten			2 hrs	Thu 23.09.	16-18 16-18	HG E22 HG D3.2	
<b>402-0351-00L</b>	<b>Astronomy</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
402-0351-00 V	Astronomie			2 hrs	Wed	10-12	HG E1.2	<b>S. P. Quanz</b>

## ► Bachelor's Thesis

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-2000-00L</b>	<b>Scientific Works in Mathematics</b> <i>Target audience: Third year Bachelor students; Master students who cannot document to have received an adequate training in</i>	<b>O</b>	<b>0 credits</b>					

401-2000-00 V	<b>working scientifically.</b> Scientific Works in Mathematics <i>Groups are selected in myStudies.</i> <i>This mandatory course is offered twice per semester.</i> <i>Carry your ETH student card with you to prove your identity.</i> <i>The lecturers will communicate the exact lesson times of ONLINE courses.</i>	1s hrs	28.09. 18-19 14.12. 18-19	ON LINE ON LINE	<b>M. Burger</b>
---------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------	------------------------------	--------------------	------------------

<b>401-2000-01L</b>	<b>Lunch Sessions – Thesis Basics for Mathematics Students</b> <i>Details and registration for the optional MathBib training course:</i> <a href="https://www.math.ethz.ch/mathbib-schulungen">https://www.math.ethz.ch/mathbib-schulungen</a>	<b>Z</b>	<b>0 credits</b>		
401-2000-01 G	Lunch Sessions – Thesis Basics für Mathematik-Studierende <i>geplant 4., 5., 6. und 8. Oktober 2021 über Mittag.</i> <a href="https://math.ethz.ch/library/training-courses/lunch-sessions.html">https://math.ethz.ch/library/training-courses/lunch-sessions.html</a>		4s hrs		Speakers

<b>401-3990-10L</b>	<b>Bachelor's Thesis</b> <i>Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics is required.</i> <i>For more information, see</i> <a href="http://www.math.ethz.ch/intranet/students/study-administration/theses.html">www.math.ethz.ch/intranet/students/study-administration/theses.html</a>	<b>O</b>	<b>8 credits</b>	<b>11D</b>	
401-3990-10 D	Bachelor-Arbeit ■		160s hrs	by appt.	Supervisors

## ► GESS Science in Perspective

### ►► Science in Perspective

*see Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended Science in Perspective  
(Type B) for D-MATH.*

### ►► Language Courses

*see Science in Perspective: Language  
Courses ETH/UZH*

## ► Additional Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-5000-00L</b>	<b>Zurich Colloquium in Mathematics</b>	<b>E-</b>	<b>0 credits</b>					
401-5000-00 K	Zurich Colloquium in Mathematics <i>**together with University of Zurich**</i> <i>More information at:</i> <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#/details/2021/003/SM/50027684">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#/details/2021/003/SM/50027684</a>  <i>Place: Zoom</i> <i>Time: 16:30-17:30</i> <a href="https://math.ethz.ch/news-and-events/events/research-seminars/zurich-colloquium-in-mathematics.html?s=hs21">https://math.ethz.ch/news-and-events/events/research-seminars/zurich-colloquium-in-mathematics.html?s=hs21</a>		4s hrs	Tue	16-17	UNI ZH.	<b>R. Abgrall, M. Iacobelli,</b> A. Bandeira, A. Iozzi, S. Mishra, R. Pandharipande, University lecturers	
<b>401-5990-00L</b>	<b>Zurich Graduate Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5990-00 K	Zurich Graduate Colloquium <i>**together with University of Zurich**</i> <i>More information at:</i> <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=EN&amp;sap-ui-language=EN#/details/2021/003/SM/50048478">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=EN&amp;sap-ui-language=EN#/details/2021/003/SM/50048478</a>  <i>Time: 16:15-18:00</i>		1 hrs	Tue	16-18	UNI ZH.	<b>A. Iozzi,</b> further speakers	
<b>401-5960-00L</b>	<b>Colloquium on Mathematics, Computer Science, and Education</b> <i>Subject didactics for mathematics and computer science teachers.</i>	<b>E-</b>	<b>0 credits</b>					
401-5960-00 K	Kolloquium über Mathematik, Informatik und Unterricht <i>Programm: <a href="https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html">https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html</a></i>			4s hrs				<b>N. Hungerbühler,</b> M. Akveld, D. Grawehr Morath, J. Hromkovic, P. Spindler
<b>402-0101-00L</b>	<b>The Zurich Physics Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
402-0101-00 K	The Zurich Physics Colloquium <i>**together with University of Zurich**</i>  <i>16:15-17:15 Uhr</i>			1 hrs	Wed	16-17	HPV G4	S. Huber, A. Refregier, University lecturers
<b>402-0800-00L</b>	<b>The Zurich Theoretical Physics Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				

402-0800-00 K The Zurich Theoretical Physics Colloquium 1 hrs Mon 17-18 HIT H42 University lecturers  
 \*\*together with University of Zurich\*\*  
 More information at:  
<https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&sap-ui-language=DE#details/2021/003/SM/50030258>  
 The Colloquium takes place on selected Mondays during the academic semester on the Irchel Campus of UZH or at ETH Hönggerberg  
 Time: 16:45h

251-0100-00L Computer Science Colloquium E- 0 credits 2K  
 251-0100-00 K Kolloquium für Informatik 2 hrs Mon 16-18 CAB G61 Lecturers

#### Mathematics Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Mathematics TC

Detailed information on the programme at: [www.ethz.ch/didaktische-ausbildung](http://www.ethz.ch/didaktische-ausbildung)

## ► Educational Science

General course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

see Educational Science TC

## ► Subject Didactics and Professional Training

Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.

Enrolment in either Mathematics Didactics I or Mathematics Didactics II (spring semester) is compulsory.

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-3971-11L</b>	<b>Mathematics Didactics I</b> <i>Enrolment only possible with matriculation in Mathematics Teaching Diploma or Mathematics TC at ETH or in Mathematics Teaching Diploma at UZH.</i>	<b>W</b>	<b>4 credits</b>	<b>2G</b>	
401-3971-11 G	Fachdidaktik Mathematik I <i>Permission from lecturers required for all students</i> <i>Di 12-13 Nachbesprechung</i>			2 hrs Tue 10-12 HG G26.5	<b>A. Barth</b>
<b>401-9987-00L</b>	<b>Teaching Internship Including Examination Lessons Mathematics</b> <i>Teaching Internship Mathematics for TC. Repetition of the Teaching Internship is excluded even if Examination Lessons are to be repeated.</i>	<b>O</b>	<b>4 credits</b>	<b>9P</b>	
401-9987-00 P	Unterrichtspraktikum mit Prüfungslektionen Mathematik ■ <i>Permission from lecturers required for all students</i>			120s hrs by appt.	<b>N. Hungerbühler</b>
<b>401-9983-00L</b>	<b>Mentored Work Subject Didactics Mathematics A</b> <i>Mentored Work Subject Didactics in Mathematics for TC and Teaching Diploma.</i>	<b>O</b>	<b>2 credits</b>	<b>4A</b>	
401-9983-00 A	Mentorierte Arbeit Fachdidaktik Mathematik A für DZ und Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			60s hrs by appt.	<b>M. Akveld, K. Barro, A. Barth, L. Halbeisen, N. Hungerbühler, C. Rüede</b>

## ► Specialized Courses in Respective Subject with Educational Focus

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-3057-00L</b>	<b>Finite Geometries II</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>	
401-3057-00 G	Endliche Geometrien II <i>Does not take place this semester.</i>			2 hrs	<b>N. Hungerbühler</b>
<b>401-3059-00L</b>	<b>Combinatorics II</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>	
401-3059-00 G	Kombinatorik II			2 hrs Wed 18-20 HG D3.2	<b>N. Hungerbühler</b>
<b>401-0293-00L</b>	<b>Mathematics III</b>	<b>W</b>	<b>5 credits</b>	<b>3V+2U</b>	
401-0293-00 V	Mathematik III - Montags findet die Vorlesung online (via Zoom) statt. Der reservierte Raum steht den Studierenden jedoch zur Verfügung, um die Vorlesung von dort aus zu verfolgen. - Dienstags findet die Vorlesung in Präsenz statt.			3 hrs Mon Tue 08-10 13-14 HG G5 HG G5	<b>E. W. Farkas</b>
401-0293-00 U	Mathematik III <i>Groups are selected in myStudies.</i>			2 hrs Tue/1 Tue/2 14-16 14-16 ETZ E9 ETZ E9 ETZ J91 ETZ J91 ETZ J91 IFW C33 IFW C33 LFW C1 LFW C1 16-18 ETZ E9 ETZ J91 ETZ J91 IFW C33 IFW C33 LFW C1 LFW C1	<b>E. W. Farkas</b>
<b>401-9985-00L</b>	<b>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus Mathematics A</b> <i>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus in Mathematics for TC and Teaching Diploma.</i>	<b>O</b>	<b>2 credits</b>	<b>4A</b>	
401-9985-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädag. Fokus Mathematik A für DZ und LD ■ <i>Permission from lecturers required for all students</i>			60s hrs by appt.	<b>M. Akveld, K. Barro, A. Barth, L. Halbeisen, N. Hungerbühler, A. F. Müller, C. Rüede</b>

## ► Colloquia

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

401-5960-00L Colloquium on Mathematics, Computer E- 0 credits

**Science, and Education**

*Subject didactics for mathematics and computer science teachers.*

401-5960-00 K Kolloquium über Mathematik, Informatik und Unterricht  
 Programm: <https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html>

4s hrs

**N. Hungerbühler**, M. Akveld,  
 D. Grawehr Morath,  
 J. Hromkovic, P. Spindler

**Mathematics TC - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System

■ Special students and auditors need special permission from the lecturers.

# Mathematics Teaching Diploma

Detailed information on the programme at: [www.ethz.ch/didaktische-ausbildung](http://www.ethz.ch/didaktische-ausbildung)

## ► Educational Science

Course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

see Educational Science Teaching Diploma

## ► Subject Didactics in Mathematics

Number	Title	Type	ECTS	Hours				Lecturers
401-3971-11L	<b>Mathematics Didactics I</b> <i>Enrolment only possible with matriculation in Mathematics Teaching Diploma or Mathematics TC at ETH or in Mathematics Teaching Diploma at UZH.</i>	O	4 credits	2G				
401-3971-11 G	Fachdidaktik Mathematik I <i>Permission from lecturers required for all students</i> <i>Di 12-13 Nachbesprechung</i>			2 hrs	Tue	10-12	HG G26.5	A. Barth
401-9983-00L	<b>Mentored Work Subject Didactics Mathematics A</b> <i>Mentored Work Subject Didactics in Mathematics for TC and Teaching Diploma.</i>	O	2 credits	4A				
401-9983-00 A	Mentorierte Arbeit Fachdidaktik Mathematik A für DZ und Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.			M. Akveld, K. Barro, A. Barth, L. Halbeisen, N. Hungerbühler, C. Rüede
401-9984-00L	<b>Mentored Work Subject Didactics Mathematics B</b> <i>Mentored Work Subject Didactics in Mathematics for Teaching Diploma and for students upgrading TC to Teaching Diploma.</i>	O	2 credits	4A				
401-9984-00 A	Mentorierte Arbeit Fachdidaktik Mathematik B Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.			M. Akveld, K. Barro, A. Barth, L. Halbeisen, N. Hungerbühler, C. Rüede

## ► Professional Training in Mathematics

Number	Title	Type	ECTS	Hours					Lecturers
401-9970-00L	<b>Introductory Internship Mathematics</b> <i>Enrolment only possible with matriculation in Mathematics Teaching Diploma or Mathematics TC at ETH.</i> <i>It is advisable to enrol in this course not prior to the first Mathematics Didactics course and not after the second Mathematics Didactics course.</i>	O	3 credits	6P					
401-9970-00 P	Einführungspraktikum Mathematik ■			90s hrs	by appt.				N. Hungerbühler
401-3971-99L	<b>Professional Exercises I</b> <i>Enrolment only possible with matriculation in Mathematics Teaching Diploma or Mathematics TC at ETH.</i> <i>Simultaneous enrolment in Mathematics Didactics - course unit 401-3971-11L - is compulsory.</i>	O	1 credit	1G					
401-3971-99 G	Berufspraktische Übungen I ■ <i>Di 8-9 Vorbesprechung</i>			1 hrs	Tue	09-10	HG G26.5		A. Barth, N. Hungerbühler
401-9988-00L	<b>Teaching Internship Mathematics</b>	O	8 credits	17P					
401-9988-00 P	Unterrichtspraktikum Mathematik Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			240s hrs	by appt.				N. Hungerbühler
401-9989-00L	<b>Teaching Internship Mathematics II</b> <i>Teaching Internship for students upgrading TC to Teaching Diploma.</i>	W	4 credits	9P					
401-9989-00 P	Unterrichtspraktikum II Mathematik (ohne Prüfungslektionen) ■ <i>Permission from lecturers required for all students</i>			120s hrs	by appt.				N. Hungerbühler
401-9991-01L	<b>Examination Lesson I Mathematics</b> <i>Simultaneous enrolment in "Examination Lesson II Mathematics" (401-9991-02L) is compulsory.</i>	O	1 credit	2P					
401-9991-01 P	Prüfungslektion untere Stufe Mathematik für Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			30s hrs	by appt.				N. Hungerbühler
401-9991-02L	<b>Examination Lesson II Mathematics</b> <i>Simultaneous enrolment in "Examination Lesson I Mathematics" (401-9991-01L) is compulsory.</i>	O	1 credit	2P					
401-9991-02 P	Prüfungslektion obere Stufe Mathematik für Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			30s hrs	by appt.				N. Hungerbühler

## ► Spec. Courses in Resp. Subj. w/ Educ. Focus & Further Subj. Didactics

Number	Title	Type	ECTS	Hours				Lecturers
--------	-------	------	------	-------	--	--	--	-----------

<b>401-3059-00L</b>	<b>Combinatorics II</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
401-3059-00 G	Kombinatorik II			2 hrs	Wed	18-20	HG D3.2	<b>N. Hungerbühler</b>	
<b>401-3057-00L</b>	<b>Finite Geometries II</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
401-3057-00 G	Endliche Geometrien II <i>Does not take place this semester.</i>			2 hrs				<b>N. Hungerbühler</b>	
<b>401-0293-00L</b>	<b>Mathematics III</b>	<b>W</b>	<b>5 credits</b>	<b>3V+2U</b>					
401-0293-00 V	Mathematik III - Montags findet die Vorlesung online (via Zoom) statt. Der reservierte Raum steht den Studierenden jedoch zur Verfügung, um die Vorlesung von dort aus zu verfolgen. - Dienstags findet die Vorlesung in Präsenz statt.			3 hrs	Mon Tue	08-10 13-14	HG G5 HG G5	<b>E. W. Farkas</b>	
401-0293-00 U	Mathematik III <i>Groups are selected in myStudies.</i>			2 hrs	Tue/1 Tue/2  Tue/1 Tue/2 Tue/1  Tue/2  Tue/1 Tue/2 Tue/1 Tue/2 Tue/1 Tue/2	14-16 14-16  14-16 14-16 14-16  14-16  16-18 16-18 16-18 16-18 16-18 16-18	ETZ E9 ETZ E9 ETZ J91 ETZ J91 IFW C33 IFW C33 LFW C1 LFW C1 ETZ E9 ETZ J91 ETZ J91 IFW C33 IFW C33 LFW C1 LFW C1	<b>E. W. Farkas</b>	
<b>401-9985-00L</b>	<b>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus Mathematics A</b> <i>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus in Mathematics for TC and Teaching Diploma.</i>	<b>O</b>	<b>2 credits</b>	<b>4A</b>					
401-9985-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädag. Fokus Mathematik A für DZ und LD ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.			<b>M. Akveld, K. Barro, A. Barth, L. Halbeisen, N. Hungerbühler, A. F. Müller, C. Rüede</b>	
<b>401-9986-00L</b>	<b>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus Mathematics B</b> <i>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus in Mathematics for Teaching Diploma and for students upgrading TC to Teaching Diploma.</i>	<b>O</b>	<b>2 credits</b>	<b>4A</b>					
401-9986-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädagogischem Fokus Mathematik B Lehrdiplom ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.			<b>M. Akveld, K. Barro, A. Barth, L. Halbeisen, N. Hungerbühler, A. F. Müller, C. Rüede</b>	

## ► Compulsory Elective Courses

Further course offerings from the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours	Lecturers				
<b>401-3059-00L</b>	<b>Combinatorics II</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
401-3059-00 G	Kombinatorik II			2 hrs	Wed	18-20	HG D3.2	<b>N. Hungerbühler</b>	
<b>401-3057-00L</b>	<b>Finite Geometries II</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
401-3057-00 G	Endliche Geometrien II <i>Does not take place this semester.</i>			2 hrs				<b>N. Hungerbühler</b>	
<b>252-0855-00L</b>	<b>Computer Science in Secondary School Mathematics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
252-0855-00 G	Informatik im gymnasialen Mathematikunterricht ■ <i>Permission from lecturers required for all students</i>			3 hrs	Wed	10-13	CAB G57	<b>J. Hromkovic, G. Serafini</b>	
	<i>see Compulsory Elective Courses Teaching Diploma</i>								

## ► Colloquia

Number	Title	Type	ECTS	Hours	Lecturers				
<b>401-5960-00L</b>	<b>Colloquium on Mathematics, Computer Science, and Education</b> <i>Subject didactics for mathematics and computer science teachers.</i>	<b>E-</b>	<b>0 credits</b>						
401-5960-00 K	Kolloquium über Mathematik, Informatik und Unterricht Programm: <a href="https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html">https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html</a>			4s hrs				<b>N. Hungerbühler, M. Akveld, D. Grawehr Morath, J. Hromkovic, P. Spindler</b>	

**Mathematics Teaching Diploma - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.



# Mathematics Master

## ► Core Courses

For the Master's degree in Applied Mathematics the following additional condition (not manifest in myStudies) must be obeyed: At least 15 of the required 28 credits from core courses and electives must be acquired in areas of applied mathematics and further application-oriented fields.

### ►► Core Courses: Pure Mathematics

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-3225-00L</b>	<b>Introduction to Lie Groups</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>				<b>A. Iozzi</b>
401-3225-00 G	Introduction to Lie Groups Groups are selected in myStudies.			4 hrs	Wed Thu	08-10 10-12	ML E12 LFO C13	
<b>401-3001-61L</b>	<b>Algebraic Topology I</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>				<b>W. Merry</b>
401-3001-61 G	Algebraic Topology I			4 hrs	Wed Fri	10-12 14-16	HG E1.1 HG E1.1	
<b>401-3132-00L</b>	<b>Commutative Algebra</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				<b>E. Kowalski</b>
401-3132-00 V	Commutative Algebra			4 hrs	Wed Fri	16-18 08-10	HG E1.1 HG E5	
401-3132-00 U	Commutative Algebra			1 hrs	Thu	09-10 12-13	HG E1.2 HG E1.2	<b>E. Kowalski</b>

### ►► Core Courses: Applied Mathematics and Further Appl.-Oriented Fields

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-3651-00L</b>	<b>Numerical Methods for Elliptic and Parabolic Partial Differential Equations (University of Zurich)</b> No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: MAT802  Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a> Course audience at ETH:  3rd year ETH BSc Mathematics and MSc Mathematics and MSc Applied Mathematics students. Other ETH-students are advised to attend the course "Numerical Methods for Partial Differential Equations" (401-0674-00L) in the CSE curriculum during the spring semester.	<b>W</b>	<b>9 credits</b>	<b>4V</b>				<b>S. Sauter</b>
401-3651-00 V	Numerical Methods for Elliptic and Parabolic Partial Differential Equations (University of Zurich) **Course at University of Zurich**			4 hrs	Wed Thu	10-12 08-10	UNI ZH. UNI ZH.	
<b>401-3621-00L</b>	<b>Fundamentals of Mathematical Statistics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				<b>S. van de Geer</b>
401-3621-00 V	Fundamentals of Mathematical Statistics			4 hrs	Tue Wed	08-10 10-12	HG E5 HG E7	
401-3621-00 U	Fundamentals of Mathematical Statistics			1 hrs	Tue	12-13	HG D7.1 HG E7	<b>S. van de Geer</b>
<b>401-3622-00L</b>	<b>Statistical Modelling</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>				<b>C. Heinze-Deml</b>
401-3622-00 G	Statistical Modelling			4 hrs	Mon Thu	10-12 14-16	ML D28 HG E1.1	
<b>401-4889-00L</b>	<b>Mathematical Finance</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>				<b>D. Possamaï</b>
401-4889-00 V	Mathematical Finance			4 hrs	Tue Thu	08-10 08-10	HG E1.1 ML F36	
401-4889-00 U	Mathematical Finance			2 hrs	Fri	10-12	ML F38	<b>D. Possamaï</b>
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>				<b>R. Zenklusen</b>
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.			4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)			2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>

### ►► Bachelor Core Courses: Pure Mathematics

Further restrictions apply, but in particular:

401-3531-00L Differential Geometry I can only be recognised for the Master Programme if 401-3532-00L Differential Geometry II has not been recognised for the Bachelor Programme.

Analogously for:

401-3461-00L Functional Analysis I - 401-3462-00L Functional Analysis II

401-3001-61L Algebraic Topology I - 401-3002-12L Algebraic Topology II

401-3132-00L Commutative Algebra - 401-3146-12L Algebraic Geometry

For the category assignment take contact with the Study Administration Office ([www.math.ethz.ch/studiensekretariat](http://www.math.ethz.ch/studiensekretariat)) after having received the credits.

Number	Title	Type	ECTS	Hours	Lecturers		
<b>401-3461-00L</b>	<b>Functional Analysis I</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.</i>	<b>E-</b>	<b>10 credits</b>	<b>4V+1U</b>			
401-3461-00 V	Functional Analysis I			4 hrs	Mon Thu	10-12 14-16	HG D7.1 HG G5 <b>J. Teichmann</b>
401-3461-00 U	Functional Analysis I <i>Groups are selected in myStudies.</i>			1 hrs	Mon	09-10	HG G26.1 HG G26.5 ML J34.1 <b>J. Teichmann</b>
<b>401-3531-00L</b>	<b>Differential Geometry I</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.</i>	<b>E-</b>	<b>10 credits</b>	<b>4V+1U</b>			
401-3531-00 V	Differential Geometry I			4 hrs	Mon Wed	14-16 14-16	ML H44 HG E5 <b>J. Serra</b>
401-3531-00 U	Differential Geometry I <i>Groups are selected in myStudies. Thu 13-14 or Thu 16-17 or Fri 13-14</i>			1 hrs	Thu Fri	13-14 16-17 13-14	HG E22 IFW C31 HG F3 <b>J. Serra</b>

## ►► Bachelor Core Courses: Applied Mathematics ...

Further restrictions apply, but in particular:

401-3601-00L Probability Theory can only be recognised for the Master Programme if neither 401-3642-00L Brownian Motion and Stochastic Calculus nor 401-3602-00L Applied Stochastic Processes has been recognised for the Bachelor Programme.

402-0205-00L Quantum Mechanics I is eligible as an applied core course, but only if 402-0224-00L Theoretical Physics (offered for the last time in FS 2016) isn't recognised for credits (neither in the Bachelor's nor in the Master's programme).

For the category assignment take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.

Number	Title	Type	ECTS	Hours	Lecturers		
<b>401-3601-00L</b>	<b>Probability Theory</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.</i>	<b>E-</b>	<b>10 credits</b>	<b>4V+1U</b>			
401-3601-00 V	Probability Theory			4 hrs	Tue Thu	10-12 10-12	HG D1.2 HG E3 <b>W. Werner</b>
401-3601-00 U	Probability Theory <i>Groups are selected in myStudies. Tue 14-15 or Tue 15-16 starting in the second week of the semester.</i>			1 hrs	Tue	14-15 15-16	HG F26.5 ML H41.1 HG F26.5 ML H41.1 <b>W. Werner</b>
<b>402-0205-00L</b>	<b>Quantum Mechanics I</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>			
402-0205-00 V	Quantenmechanik I			3 hrs	Tue Thu	10-12 12-13	HPV G4 HPV G4 <b>M. Gaberdiel</b>
402-0205-00 U	Quantenmechanik I <i>Do 10-12 oder Do 16-18</i>			2 hrs	Thu	10-12 16-18	HCI H8.1 HIT F31.2 HIT K52 HPK D24.2 HIL B21 HIL E10.1 HIT K51 HPK D24.2 <b>M. Gaberdiel</b>

## ► Electives

For the Master's degree in Applied Mathematics the following additional condition (not manifest in myStudies) must be obeyed: At least 15 of the required 28 credits from core courses and electives must be acquired in areas of applied mathematics and further application-oriented fields.

## ►► Electives: Pure Mathematics

### ►►► Selection: Algebra, Number Thy, Topology, Discrete Mathematics, Logic

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-3059-00L</b>	<b>Combinatorics II</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					<b>N. Hungerbühler</b>
401-3059-00 G	Kombinatorik II			2 hrs	Wed	18-20	HG D3.2		
<b>401-3033-00L</b>	<b>Gödel's Theorems</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U</b>					<b>L. Halbeisen</b>
401-3033-00 V	Die Gödel'schen Sätze			3 hrs	Tue	14-16	ML F39		
					Wed	12-13	HG G3		<b>L. Halbeisen</b>
401-3033-00 U	Die Gödel'schen Sätze			1 hrs	Wed	13-14	HG G3		

### ►►► Selection: Geometry

Number	Title	Type	ECTS	Hours				Lecturers
401-3533-70L	Topics in Riemannian Geometry	W	6 credits	3V				U. Lang
401-3533-70 V	Topics in Riemannian Geometry (Differential Geometry III)			3 hrs	Mon Wed	14-16 13-14	HG G19.1 HG G19.2	
401-4207-71L	Coxeter Groups from a Geometric Viewpoint	W	4 credits	2V				
401-4207-71 V	Coxeter Groups from a Geometric Viewpoint <i>lecturer M. Cordes</i>			2 hrs	Thu	14-16	CLA E4	
401-3057-00L	Finite Geometries II	W	4 credits	2G				N. Hungerbühler
401-3057-00 G	Endliche Geometrien II <i>Does not take place this semester.</i>			2 hrs				

### ►►► Selection: Analysis

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-4421-71L</b>	<b>Harmonic Analysis</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					<b>A. Figalli</b>
401-4421-71 V	Harmonic Analysis			2 hrs	Thu	10-12	HG D1.2		
<b>401-4475-71L</b>	<b>Microlocal Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					<b>P. Hintz</b>
401-4475-71 G	Microlocal Analysis <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			3 hrs	Tue	10-12	LFW E13		
					Thu	08-09	HG E7		

### ►►► Selection: Further Realms

Number	Title	Type	ECTS	Hours		Lecturers
401-3502-71L	<b>Reading Course</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	W	2 credits	4A		
401-3502-00 A	Reading Course (2 KP) ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.	Supervisors
401-3503-71L	<b>Reading Course</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	W	3 credits	6A		
401-3503-00 A	Reading Course (3 KP) ■ <i>Permission from lecturers required for all students</i>			90s hrs	by appt.	Supervisors
401-3504-71L	<b>Reading Course</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	W	4 credits	9A		
401-3504-00 A	Reading Course (4 KP) ■ <i>Permission from lecturers required for all students</i>			120s hrs	by appt.	Supervisors
401-3504-02L	<b>Reading Course (No. 2)</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	W	4 credits	18A		

interest/math/department/Intranet/Students/  
Study\_Administration/Theses\_Reading\_Co  
urses/berechtigungsliste.pdf  
and register your reading course in  
myStudies.

401-3504-00 A	Reading Course (4 KP) ■ Permission from lecturers required for all students	120s hrs	by appt.	Supervisors
401-3504-02 A	Reading Course (4 KP) No. 2 ■ Permission from lecturers required for all students	120s hrs	by appt.	Supervisors

<b>401-0000-00L</b>	<b>Communication in Mathematics</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>					
401-0000-00 V	Communication in Mathematics Does not take place this semester.			1 hrs					<b>W. Merry</b>

## ►► Electives: Applied Mathematics and Further Application-Oriented Fields

### ►►► Selection: Numerical Analysis

Number	Title	Type	ECTS	Hours	Lecturers				
<b>401-4657-00L</b>	<b>Numerical Analysis of Stochastic Ordinary Differential Equations</b> <i>Alternative course title: "Computational Methods for Quantitative Finance: Monte Carlo and Sampling Methods"</i>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
401-4657-00 V	Numerical Analysis of Stochastic ODEs (Comp. Meth. Quant. Fin.: Monte Carlo and Sampling Methods)			3 hrs	Mon	16-18	HG D1.2		<b>A. Stein</b>
401-4657-00 U	Numerical Analysis of Stochastic ODEs (Comp. Meth. Quant. Fin.: Monte Carlo and Sampling Methods) <i>Groups are selected in myStudies.</i>			1 hrs	Wed	14-15	HG D5.2		<b>A. Stein</b>
					Wed	15-16	HG D5.2 LFW C1		
<b>401-4785-00L</b>	<b>Mathematical and Computational Methods in Photonics</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-4785-00 G	Mathematical and Computational Methods in Photonics			4 hrs	Mon	10-12	HG G26.5		<b>H. Ammari</b>
					Wed	10-12	HG G26.5		
<b>401-5003-71L</b>	<b>At the Interface Between Semiclassical Analysis and Numerical Analysis of Wave-Scattering Problems</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-5003-71 V	At the Interface Between Semiclassical Analysis and Numerical Analysis of Wave-Scattering Problems <i>Fridays, 10:15 - 12:00</i> <i>First lecture: 1 October</i> <i>More information and registration (registration deadline: 27 September)</i> <i><a href="https://math.ethz.ch/fim/activities/nachdiplom-lectures/euan-spence.html">https://math.ethz.ch/fim/activities/nachdiplom-lectures/euan-spence.html</a></i>			2 hrs	Fri	10-12	HG G43		<b>E. Spence</b>

### ►►► Selection: Probability Theory, Statistics

Number	Title	Type	ECTS	Hours	Lecturers				
<b>401-4607-67L</b>	<b>Schramm-Loewner Evolutions</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-4607-67 V	Schramm-Loewner Evolutions			2 hrs	Wed	08-10	HG G19.1		<b>W. Werner</b>
					03.11.	08-10	HG G19.2		
<b>401-3822-17L</b>	<b>Ising Model</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3822-17 V	Ising Model			2 hrs	Wed	14-16	HG D1.2		<b>V. Tassion</b>
<b>401-3628-14L</b>	<b>Bayesian Statistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3628-14 V	Bayesian Statistics			2 hrs	Tue	16-18	HG G3		<b>F. Sigrist</b>
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon	14-16	HG G5		<b>L. Meier</b>
401-0625-01 U	Applied Analysis of Variance and Experimental Design			1 hrs	Mon/2w	16-18	HG E1.1		<b>L. Meier</b>
<b>401-0649-00L</b>	<b>Applied Statistical Regression</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon	08-10	HG E1.2		<b>M. Dettling</b>
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>			1 hrs	Mon/2w	10-12	HG E1.2		<b>M. Dettling</b>
<b>401-3627-00L</b>	<b>High-Dimensional Statistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3627-00 V	High-Dimensional Statistics			2 hrs	Thu	08-10	CAB G61		<b>P. L. Bühlmann</b>
<b>401-4623-00L</b>	<b>Time Series Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
401-4623-00 G	Time Series Analysis <i>Does not take place this semester.</i>			3 hrs					<b>F. Balabdaoui</b>
<b>401-3612-00L</b>	<b>Stochastic Simulation</b>	<b>W</b>	<b>5 credits</b>	<b>3G</b>					
401-3612-00 G	Stochastic Simulation <i>Does not take place this semester.</i>			3 hrs					

### ►►► Selection: Financial and Insurance Mathematics

*In the Master's programmes in Mathematics resp. Applied Mathematics 401-3913-01L Mathematical Foundations for Finance is eligible as an elective course, but only if 401-3888-00L Introduction to Mathematical Finance isn't recognised for credits (neither in the Bachelor's nor in the Master's programme). For the category assignment take contact with the Study Administration Office ([www.math.ethz.ch/studiensekretariat](http://www.math.ethz.ch/studiensekretariat)) after having received*

the credits.

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-3925-00L</b>	<b>Non-Life Insurance: Mathematics and Statistics</b>	<b>W</b>	<b>8 credits</b>	<b>4V+1U</b>					
401-3925-00 V	Non-Life Insurance: Mathematics and Statistics			4 hrs	Mon	16-18	HG D7.1		<b>M. V. Wüthrich</b>
					Tue	13-15	HG D7.1		
401-3925-00 U	Non-Life Insurance: Mathematics and Statistics			1 hrs	Tue	15-16	HG D7.1		<b>M. V. Wüthrich</b>
<b>401-3922-00L</b>	<b>Life Insurance Mathematics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3922-00 V	Life Insurance Mathematics			2 hrs	Fri	16-18	HG E1.1		<b>M. Koller</b>
<b>401-3928-00L</b>	<b>Reinsurance Analytics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3928-00 V	Reinsurance Analytics			2 hrs	Tue	16-18	HG E1.1		<b>P. Antal, P. Arbenz</b>
<b>401-3927-00L</b>	<b>Mathematical Modelling in Life Insurance</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3927-00 V	Mathematical Modelling in Life Insurance			2 hrs	Thu	16-18	HG E1.1		<b>T. J. Peter</b>

### ►►► Selection: Mathematical Physics, Theoretical Physics

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0843-00L</b>	<b>Quantum Field Theory I</b> <i>Special Students UZH must book the module PHY551 directly at UZH.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>					
402-0843-00 V	Quantum Field Theory I <i>**together with University of Zurich**</i>			4 hrs	Mon Thu	14-16 10-12	HPV G4 HPV G5		<b>G. M. Graf</b>
	<i>Lecture starts on 23 September 2021.</i>								
402-0843-00 U	Quantum Field Theory I <i>**together with University of Zurich**</i>			2 hrs	Thu	14-16	HCP E47.4 HIL B21 HIL D10.2 HIT H42		<b>G. M. Graf</b>
	<i>Thu 14-16 or Fri 10-12</i>								
	<i>Exercises start in the second week of the semester.</i>				Fri	10-12	HIT J51 HIT J53 HIT K52		
<b>402-0861-00L</b>	<b>Statistical Physics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>					
402-0861-00 V	Statistical Physics			4 hrs	Tue Wed	14-16 14-16	HPV G5 HPV G5		<b>M. Sigrist</b>
402-0861-00 U	Statistical Physics			2 hrs	Tue Wed Fri	16-18 12-14 16-18	HCI J4 HIT J53 HIT H42 HIT J51 HIT J52 HIT K51 HIT K51		<b>M. Sigrist</b>
<b>402-0830-00L</b>	<b>General Relativity</b> <i>Special Students UZH must book the module PHY511 directly at UZH.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>					
402-0830-00 V	General Relativity <i>**together with University of Zurich**</i>			4 hrs	Tue Thu	16-18 12-14	HPV G5 HPV G5		<b>C. Anastasiou</b>
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there."</i>								
402-0830-00 U	General Relativity <i>**together with University of Zurich**</i>			2 hrs	Thu Fri	16-18 12-14	HIT F31.1 HIT F31.2 HIT J53 HIT K52 HCI D2 HCI D8 HIL F10.3 HIT J52		<b>C. Anastasiou</b>
<b>402-0897-00L</b>	<b>Introduction to String Theory</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0897-00 V	Introduction to String Theory			2 hrs	Tue	10-12	HPV G5		<b>J. Brödel</b>
402-0897-00 U	Introduction to String Theory			1 hrs	Wed	10-11	HCI J4 HPL D32		<b>J. Brödel</b>

### ►►► Selection: Mathematical Optimization, Discrete Mathematics

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-3055-64L</b>	<b>Algebraic Methods in Combinatorics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
401-3055-64 V	Algebraic Methods in Combinatorics			2 hrs	Wed	10-12	IFW A36		<b>B. Sudakov</b>
401-3055-64 U	Algebraic Methods in Combinatorics			1 hrs	Mon	12-13 13-14	ML F34 ML F34		<b>B. Sudakov</b>

### ►►► Auswahl: Theoretical Computer Science, Discrete Mathematics

Number	Title	Type	ECTS	Hours					Lecturers
<b>263-4500-00L</b>	<b>Advanced Algorithms</b>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>					
263-4500-00 V	Advanced Algorithms			3 hrs	Wed	09-12	HG D5.2		<b>M. Ghaffari, G. Zuzic</b>
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>								

263-4500-00 U	Advanced Algorithms			2 hrs	Fri	10-12	CAB G59	<b>M. Ghaffari, G. Zuzic</b>
263-4500-00 A	Advanced Algorithms			3 hrs				<b>M. Ghaffari, G. Zuzic</b>
<b>252-1425-00L</b>	<b>Geometry: Combinatorics and Algorithms</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
252-1425-00 V	Geometry: Combinatorics and Algorithms			3 hrs	Mon Thu	13-14 14-16	CAB G51 CAB G51	<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
252-1425-00 U	Geometry: Combinatorics and Algorithms			2 hrs	Mon 23.09. 30.09.	14-16 16-18 16-18	CAB G51 CAB G51 CAB G51	<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
252-1425-00 A	Geometry: Combinatorics and Algorithms <i>Project Work, no fixed presence required.</i>			2 hrs				<b>B. Gärtner, E. Welzl,</b> M. Hoffmann, M. Wettstein
<b>252-0417-00L</b>	<b>Randomized Algorithms and Probabilistic Methods</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0417-00 V	Randomized Algorithms and Probabilistic Methods			3 hrs	Wed Thu	08-09 16-18	ML D28 ML D28	<b>A. Steger</b>
252-0417-00 U	Randomized Algorithms and Probabilistic Methods			2 hrs	Tue	14-16 16-18	HG D1.2 HG D1.2	<b>A. Steger</b>
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>			4 hrs				<b>A. Steger</b>

## ▶▶▶ Selection: Further Realms

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-4944-20L</b>	<b>Mathematics of Data Science</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-4944-20 G	Mathematics of Data Science			4 hrs	Thu Fri	12-14 10-12	HG G3 HG G5		<b>A. Bandeira</b>
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
227-0423-00 V	Neural Network Theory			2 hrs	Tue	10-12	HG F5		<b>H. Bölcskei</b>
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on: <a href="https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html">https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html</a>. The reserved room is meant for those students who want to follow the course from the campus.</i>			1 hrs	Tue	12-13	HG F5		<b>H. Bölcskei</b>
<b>401-3502-71L</b>	<b>Reading Course</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	<b>W</b>	<b>2 credits</b>	<b>4A</b>					
401-3502-00 A	Reading Course (2 KP) ■ <i>Permission from lecturers required for all students</i>			60s hrs	by appt.				Supervisors
<b>401-3503-71L</b>	<b>Reading Course</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	<b>W</b>	<b>3 credits</b>	<b>6A</b>					
401-3503-00 A	Reading Course (3 KP) ■ <i>Permission from lecturers required for all students</i>			90s hrs	by appt.				Supervisors
<b>401-3504-71L</b>	<b>Reading Course</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	<b>W</b>	<b>4 credits</b>	<b>9A</b>					
401-3504-00 A	Reading Course (4 KP) ■ <i>Permission from lecturers required for all students</i>			120s hrs	by appt.				Supervisors
<b>401-3504-02L</b>	<b>Reading Course (No. 2)</b> <i>To start an individual reading course, contact an authorised supervisor <a href="https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf">https://www.ethz.ch/content/dam/ethz/special-interest/math/department/Intranet/Students/Study_Administration/Theses_Reading_Courses/berechtigungsliste.pdf</a> and register your reading course in myStudies.</i>	<b>W</b>	<b>4 credits</b>	<b>18A</b>					
401-3504-00 A	Reading Course (4 KP) ■ <i>Permission from lecturers required for all students</i>			120s hrs	by appt.				Supervisors

401-3504-02 A	Reading Course (4 KP) No. 2 ■ <i>Permission from lecturers required for all students</i>			120s hrs	by appt.			Supervisors
<b>401-0000-00L</b>	<b>Communication in Mathematics</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>				
401-0000-00 V	Communication in Mathematics <i>Does not take place this semester.</i>			1 hrs				<b>W. Merry</b>

## ► Application Area

*Only necessary and eligible for the Master degree in Applied Mathematics.*

*One of the application areas specified must be selected for the category Application Area for the Master degree in Applied Mathematics. At least 8 credits are required in the chosen application area.*

## ►► Atmospheric Physics

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1221-00L</b>	<b>Dynamics of Large-Scale Atmospheric Flow</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
701-1221-00 V	Dynamics of Large-Scale Atmospheric Flow			2 hrs	Wed	09-11	CHN E42		<b>H. Wernli, L. Papritz</b>
701-1221-00 U	Dynamics of Large-Scale Atmospheric Flow			1 hrs	Wed	11-12	CHN E42		<b>H. Wernli, L. Papritz</b>

## ►► Biology

Number	Title	Type	ECTS	Hours					Lecturers
<b>636-0017-00L</b>	<b>Computational Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>					
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>			3 hrs	Mon	16-18	BSA E46 HG D16.2		<b>T. Vaughan</b>
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>			2 hrs	Thu	18-19 12-13	HG D16.2 BSA E46		<b>T. Vaughan</b>
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>					
636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>			3 hrs	Wed	14-17	HG D3.2		<b>J. Stelling</b>
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>			2 hrs	Fri	10-12	HG D1.2		<b>J. Stelling</b>
<b>636-0009-00L</b>	<b>Evolutionary Dynamics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>					
636-0009-00 V	Evolutionary Dynamics <i>Attention: lecture starts on Thursday, 30 Sep 2021</i>  <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked for students to follow the course from there.</i>			2 hrs	Thu	09-11	BSA E46 HG D16.2		<b>N. Beerenwinkel</b>
636-0009-00 U	Evolutionary Dynamics <i>Online: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there</i>			1 hrs	Thu	11-12	BSA E46 HG D16.2		<b>N. Beerenwinkel</b>
636-0009-00 A	Evolutionary Dynamics <i>Project Work (compulsory continuous performance assessment), no fixed presence required.</i>			2 hrs					<b>N. Beerenwinkel</b>

## ►► Control and Automation

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0563-01L</b>	<b>Dynamic Programming and Optimal Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG F1		<b>R. D'Andrea</b>
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>			1 hrs	Wed	16-17 29.09.	CAB G51 HG F1 ML E12		<b>R. D'Andrea</b>

## ►► Economics

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-3929-00L</b>	<b>Financial Risk Management in Social</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					

and Pension Insurance							
401-3929-00 V	Financial Risk Management in Social and Pension Insurance	2 hrs	Wed	16-18	HG D7.2	P. Blum	
363-0537-00L	Resource and Environmental Economics	W	3 credits	2G			
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>	2 hrs	Wed	10-12	HG G3	L. Bretschger	
363-0503-00L	Principles of Microeconomics <i>GESS (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L Einführung in die Mikroökonomie.</i>	W	3 credits	2G			
363-0503-00 G	Principles of Microeconomics <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>	2 hrs	Thu	18-20	HG F7	M. Filippini	
363-0565-00L	Principles of Macroeconomics	W	3 credits	2V			
363-0565-00 V	Principles of Macroeconomics <i>Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>	2 hrs	Tue	16-18	ETA F5 ETF E1	J.-E. Sturm	
363-1021-00L	Monetary Policy	W	3 credits	2V			
363-1021-00 V	Monetary Policy	2 hrs	Mon	14-16	LEE E101	J.-E. Sturm, A. Rathke	

## ►► Finance

Number	Title	Type	ECTS	Hours				Lecturers
401-8905-00L	<b>Financial Engineering (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: MFOEC200</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	6 credits	4G				
401-8905-00 G	Financial Engineering (University of Zurich) <b>**Course at University of Zurich**</b>			4 hrs				University lecturers
401-8913-00L	<b>Advanced Corporate Finance I (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: MOEC0455</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	6 credits	4G				
401-8913-00 G	Advanced Corporate Finance I (University of Zurich) <b>**Course at University of Zurich**</b>			4 hrs	Tue Thu	14-16 10-12	UNI ZH. UNI ZH.	University lecturers

## ►► Image Processing and Computer Vision

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>				
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1	<b>L. Van Gool</b> , E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool</b> , E. Konukoglu, F. Yu

## ►► Information and Communication Technology

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0105-00L</b>	<b>Introduction to Estimation and Machine Learning</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0105-00 G	Introduction to Estimation and Machine Learning ■			4 hrs	Fri	14-18	ETF C1	<b>H.-A. Loeliger</b>
<b>227-0101-00L</b>	<b>Discrete-Time and Statistical Signal Processing</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18	HG F3	<b>H.-A. Loeliger</b>
<b>227-0417-00L</b>	<b>Information Theory I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0417-00 G	Information Theory I			4 hrs	Wed	14-18	ETF C1	<b>A. Lapidoth</b>

## ►► Machine Learning

*The list is not yet complete.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>			3 hrs	Fri	10-12 13-14	ETA F5 ETF E1 ETA F5 ETF E1	<b>A. Krause</b>



263-5210-00 U	Probabilistic Artificial Intelligence Q&A session: <i>Monday, 17-18, via zoom</i>			2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs				<b>A. Krause</b>
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-3210-00 V	Deep Learning			3 hrs	Wed Thu	13-14 14-16	ML D28 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 U	Deep Learning			2 hrs	Mon Wed	16-18 16-18	HG G5 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 A	Deep Learning			2 hrs				<b>F. Perez Cruz, A. Lucchi</b>
<b>252-3005-00L</b>	<b>Natural Language Processing</b> <i>Number of participants limited to 400.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>				
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>			2 hrs	Mon	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 U	Natural Language Processing			2 hrs	Wed	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 A	Natural Language Processing			1 hrs				<b>R. Cotterell</b>
<b>263-5255-00L</b>	<b>Foundations of Reinforcement Learning</b> <i>Number of participants limited to 190.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2A</b>				
263-5255-00 V	Foundations of Reinforcement Learning			2 hrs	Fri	14-16	CAB G11	<b>N. He</b>
263-5255-00 A	Foundations of Reinforcement Learning			2 hrs				<b>N. He</b>

## ►► Material Modelling and Simulation

Number	Title	Type	ECTS	Hours					Lecturers
<b>327-1201-00L</b>	<b>Transport Phenomena I</b>	<b>W</b>	<b>5 credits</b>	<b>4G</b>					
327-1201-00 G	Transport Phenomena I <i>14:00-15:00 Vorlesung 15:15-16:15 Übungen in zwei Gruppen 16:30-17:30 Vorlesung</i>			4 hrs	Mon	14-18	HCP E47.3		<b>J. Vermant</b>

## ►► Quantum Chemistry

Number	Title	Type	ECTS	Hours					Lecturers
<b>529-0003-01L</b>	<b>Advanced Quantum Chemistry</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0003-01 G	Advanced Quantum Chemistry <i>Lecture Tue 12:00-14:00, Exercise Classes Thursday 10:00-11:00 Vorlesung Di 12-14 Uhr, Uebung Do 10-11 Uhr</i>			3 hrs	Tue Thu	12-14 10-11	HCI J4 HCI F8		<b>M. Reiher, A. Baiardi</b>

## ►► Simulation of Semiconductor Devices

"Simulation of Semiconductor Devices" is no longer offered as an application area.

## ►► Systems Design

Number	Title	Type	ECTS	Hours					Lecturers
<b>363-0541-00L</b>	<b>Systems Dynamics and Complexity</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
363-0541-00 G	Systems Dynamics and Complexity <i>Lecture: Thursday, 08-10 h Exercises: Tuesday, 12-13 h The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Tue Thu	12-13 08-10	HG D1.2 HG D1.2		<b>F. Schweitzer</b>

## ►► Theoretical Physics

*In the Master's programme in Applied Mathematics 402-0205-00L Quantum Mechanics I is eligible as a course unit in the application area Theoretical Physics, but only if 402-0224-00L Theoretical Physics wasn't or isn't recognised for credits (neither in the Bachelor's nor in the Master's programme). For the category assignment take contact with the Study Administration Office ([www.math.ethz.ch/studiensekretariat](http://www.math.ethz.ch/studiensekretariat)) after having received the credits.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0809-00L</b>	<b>Introduction to Computational Physics</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U</b>					
402-0809-00 V	Introduction to Computational Physics			2 hrs	Tue	10-12	HCI J7		<b>A. Adelman</b>
402-0809-00 U	Introduction to Computational Physics			2 hrs	Tue	08-10	HCI J7		<b>A. Adelman</b>
<b>402-2203-01L</b>	<b>Classical Mechanics</b>	<b>W</b>	<b>7 credits</b>	<b>4V+2U</b>					
402-2203-01 V	Allgemeine Mechanik <i>Die erste Vorlesung (23.09.21) findet im HCI G 7 statt, danach im HPH G 3 bzw. HIL E 3.</i>			4 hrs	Mon Thu	12-14 14-16 23.09.	HPH G3 HIL E3 HCI G7		<b>R. Renner</b>
402-2203-01 U	Allgemeine Mechanik <i>Die Übungen beginnen in der 2. Semesterwoche.</i>			2 hrs	Tue	08-10	CHN D42 CHN D48 CHN E46 HG E33.1 LFW C1 ML F40 ML J34.1 ML J34.3 ML J37.1 HIL C10.2 HPL D32 HPL D34		<b>R. Renner</b>
<b>402-0861-00L</b>	<b>Statistical Physics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>					
402-0861-00 V	Statistical Physics			4 hrs	Tue Wed	14-16 14-16	HPV G5 HPV G5		<b>M. Sigrist</b>

402-0861-00 U	Statistical Physics			2 hrs	Tue	16-18	HCI J4 HIT J53 HIT H42 HIT J51 HIT J52 HIT K51 HIT K51	<b>M. Sigrist</b>
					Wed	12-14		
					Fri	16-18		
<b>402-0843-00L</b>	<b>Quantum Field Theory I</b> <i>Special Students UZH must book the module PHY551 directly at UZH.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>				
402-0843-00 V	Quantum Field Theory I <i>**together with University of Zurich**</i>			4 hrs	Mon Thu	14-16 10-12	HPV G4 HPV G5	<b>G. M. Graf</b>
	<i>Lecture starts on 23 September 2021.</i>							
402-0843-00 U	Quantum Field Theory I <i>**together with University of Zurich**</i>			2 hrs	Thu	14-16	HCP E47.4 HIL B21 HIL D10.2 HIT H42 HIT J51 HIT J53 HIT K52	<b>G. M. Graf</b>
	<i>Thu 14-16 or Fri 10-12</i> <i>Exercises start in the second week of the semester.</i>				Fri	10-12		
<b>402-0830-00L</b>	<b>General Relativity</b> <i>Special Students UZH must book the module PHY511 directly at UZH.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>				
402-0830-00 V	General Relativity <i>**together with University of Zurich**</i>			4 hrs	Tue Thu	16-18 12-14	HPV G5 HPV G5	<b>C. Anastasiou</b>
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there."</i>							
402-0830-00 U	General Relativity <i>**together with University of Zurich**</i>			2 hrs	Thu	16-18	HIT F31.1 HIT F31.2 HIT J53 HIT K52 HCI D2 HCI D8 HIL F10.3 HIT J52	<b>C. Anastasiou</b>
					Fri	12-14		

*Electives Theoretical Physics*

►► **Transportation Science**

Number	Title	Type	ECTS	Hours	Lecturers			
<b>101-0417-00L</b>	<b>Transport Planning Methods</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
101-0417-00 G	Transport Planning Methods			4 hrs	Mon Wed 22.09. 27.09. 29.09. 04.10. 06.10.	10-12 10-12 10-12 10-12 10-12 10-12 10-12	HIL F36.1 HIL F36.1 HCP E47.1 HIL F10.3 HCP E47.1 HIL F10.3 HCP E47.1	<b>K. W. Axhausen</b>

► **Seminars and Semester Papers**

►► **Seminars**

*NOTICE: The number of seminar places is limited, and the special selection procedure should help to allocate the places not primarily according to the registration time. Everybody is waitlisted first when he/she tries to register for a seminar in myStudies.  
Moreover: Only one mathematics seminar can be chosen per semester. In case you need to attend 2 seminars in this semester, please take contact with the Study Administration (email: studiensekretariat@math.ethz.ch).*

Number	Title	Type	ECTS	Hours	Lecturers			
<b>401-3100-71L</b>	<b>Student Seminar in Number Theory: L-Functions</b> <i>Number of participants limited to 24.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-3100-71 S	Student Seminar in Number Theory: L-Functions			2 hrs	Tue 21.09. 28.09.	12-14 12-14 12-14	NO C6 HG F26.5 HG F26.5	<b>M. Schwagenscheidt</b>
<b>401-3140-71L</b>	<b>Student Seminar in Algebraic Geometry: W Complex Algebraic Surfaces</b> <i>Number of participants limited to 12.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-3140-71 S	Student Seminar in Algebraic Geometry: Complex Algebraic Surfaces			2 hrs	Fri	12-14	HG F26.5	<b>T.-H. Bülles, R. Pandharipande</b>
<b>401-3050-71L</b>	<b>Student Seminar in Combinatorics</b> <i>Number of participants limited to 12.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-3050-71 S	Student Seminar in Combinatorics			2 hrs	Fri	14-16	ML H34.3	<b>B. Sudakov</b>
<b>401-4530-71L</b>	<b>Quasimorphisms and Symplectic Geometry</b> <i>Number of participants limited to 12.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-4530-71 S	Quasimorphisms and Symplectic Geometry <i>Advisors: V. Bosshard, P. Dietzsch</i>			2 hrs	Wed	10-12	CHN D48	<b>P. Biran, further speakers</b>
<b>401-4570-71L</b>	<b>Student Seminar in Symplectic vs. Contact Geometry</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				

Number of participants limited to 12.							
401-4570-71 S	Student Seminar in Symplectic vs. Contact Geometry	2 hrs	Wed	14-16	HG G19.2	A. Cannas da Silva	
401-3940-71L	<b>Student Seminar in Mathematics and Data: Stochastic Optimization</b>	<b>W</b>				<b>4 credits</b>	<b>2S</b>
Number of participants limited to 12.							
401-3940-00 S	Student Seminar in Mathematics and Data: Stochastic Optimization	2 hrs	Thu	14-16	HG G19.2	A. Bandeira	
Advisors: Prof. A. Bandeira, Dr. G. Chinot and Dr. N. Zhivotovskii							
401-3620-20L	<b>Student Seminar in Statistics: Inference in Some Non-Standard Regression Problems</b>	<b>W</b>				<b>4 credits</b>	<b>2S</b>
Number of participants limited to 24. Mainly for students from the Mathematics Bachelor and Master Programmes who, in addition to the introductory course unit 401-2604-00L Probability and Statistics, have heard at least one core or elective course in statistics. Also offered in the Master Programmes Statistics resp. Data Science.							
401-3620-00 S	Student Seminar in Statistics: Inference in Some Non-Standard Regression Problems	2 hrs	Mon	16-18	HG E21	F. Balabdaoui, P. L. Bühlmann, M. H. Maathuis, N. Meinshausen, S. van de Geer	
Remark: former title in FS 2020: Student Seminar in Statistics: Inference in Non-Classical Regression Models							
401-3910-71L	<b>Student Seminar on Reinforcement Learning</b>	<b>W</b>				<b>4 credits</b>	<b>2S</b>
Number of participants limited to 12.							
401-3910-71 S	Student Seminar on Reinforcement Learning	2 hrs	Thu	14-16	HG E21	M. Schweizer	

## ►► Semester Papers

There are several course units "Semester Paper" that are all equivalent. If, during your studies, you write several semester papers, choose among the different numbers in order to be able to obtain credits again.

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-3750-01L</b>	<b>Semester Paper</b>	<b>W</b>	<b>8 credits</b>	<b>11A</b>	
Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics is required. For more information, see <a href="http://www.math.ethz.ch/intranet/students/study-administration/theses.html">www.math.ethz.ch/intranet/students/study-administration/theses.html</a>					
401-3750-01 A	Semesterarbeit Mathematik Master (Nr. 1) ■			160s hrs by appt.	Supervisors
Permission from lecturers required for all students					
<b>401-3750-02L</b>	<b>Semester Paper (No. 2)</b>	<b>W</b>	<b>8 credits</b>	<b>11A</b>	
Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics is required. For more information, see <a href="http://www.math.ethz.ch/intranet/students/study-administration/theses.html">www.math.ethz.ch/intranet/students/study-administration/theses.html</a>					
401-3750-02 A	Semesterarbeit Mathematik Master (Nr. 2) ■			160s hrs by appt.	Supervisors
Permission from lecturers required for all students					
<b>401-3750-03L</b>	<b>Semester Paper (No. 3)</b>	<b>W</b>	<b>8 credits</b>	<b>11A</b>	
Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics is required. For more information, see <a href="http://www.math.ethz.ch/intranet/students/study-administration/theses.html">www.math.ethz.ch/intranet/students/study-administration/theses.html</a>					
401-3750-03 A	Semesterarbeit Mathematik Master (Nr. 3) ■			160s hrs by appt.	Supervisors
Permission from lecturers required for all students					

## ► GESS Science in Perspective

Two credits are needed from the "Science in Perspective" programme with language courses excluded if three credits from language courses have already been recognised for the Bachelor's degree.  
see <https://ethz.ch/content/dam/ethz/common/docs/weisungssammlung/files-en/science-in-perspective.pdf> (Eight credits must be acquired in this category: normally six during the Bachelor's degree programme, and two during the Master's degree programme. A maximum of three credits from language courses from the range of the Language Center of the University of Zurich and ETH Zurich may be recognised. In addition, only advanced courses (level B2 upwards) in the European languages English, French, Italian and Spanish are recognised. German language courses are recognised from level C2 upwards.)

see Science in Perspective: Language Courses ETH/UZH

see Science in Perspective: Type A: Enhancement of Reflection Capability

Recommended Science in Perspective (Type B) for D-MATH.

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-2000-00L</b>	<b>Scientific Works in Mathematics</b>	<b>O</b>	<b>0 credits</b>		

Target audience:  
Third year Bachelor students;  
Master students who cannot document to  
have received an adequate training in  
working scientifically.

401-2000-00 V Scientific Works in Mathematics 1s hrs 28.09. 18-19 ON LINE **M. Burger**  
Groups are selected in myStudies.  
This mandatory course is offered twice per semester.  
Carry your ETH student card with you to prove your identity.  
The lecturers will communicate the exact lesson times of ONLINE  
courses.

**401-2000-01L Lunch Sessions – Thesis Basics for Mathematics Students Z 0 credits**  
Details and registration for the optional  
MathBib training course:  
<https://www.math.ethz.ch/mathbib-schulungen>

401-2000-01 G Lunch Sessions – Thesis Basics für Mathematik-Studierende 4s hrs Speakers  
geplant 4., 5., 6. und 8. Oktober 2021 über Mittag.  
<https://math.ethz.ch/library/training-courses/lunch-sessions.html>

**401-4990-00L Master's Thesis O 30 credits 57D**  
Only students who fulfil the following criteria  
are allowed to begin with their Master's  
thesis:  
a. successful completion of the Bachelor's  
programme;  
b. fulfilling of any additional requirements  
necessary to gain admission to the Master's  
programme.

Successful participation in the course unit  
401-2000-00L Scientific Works in  
Mathematics is required.  
For more information, see  
[www.math.ethz.ch/intranet/students/study-administration/theses.html](http://www.math.ethz.ch/intranet/students/study-administration/theses.html)

401-4990-00 D Master's Thesis ■ 800s hrs by appt. Supervisors  
Permission from lecturers required for all students

## ► Additional Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-5000-00L</b>	<b>Zurich Colloquium in Mathematics</b>	<b>E-</b>	<b>0 credits</b>					
401-5000-00 K	Zurich Colloquium in Mathematics **together with University of Zurich** More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#/details/2021/003/SM/50027684">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#/details/2021/003/SM/50027684</a>  Place: Zoom Time: 16:30-17:30 <a href="https://math.ethz.ch/news-and-events/events/research-seminars/zurich-colloquium-in-mathematics.html?s=hs21">https://math.ethz.ch/news-and-events/events/research-seminars/zurich-colloquium-in-mathematics.html?s=hs21</a>			4s hrs	Tue	16-17	UNI ZH.	<b>R. Abgrall, M. Iacobelli,</b> A. Bandeira, A. Iozzi, S. Mishra, R. Pandharipande, University lecturers
<b>401-5990-00L</b>	<b>Zurich Graduate Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5990-00 K	Zurich Graduate Colloquium **together with University of Zurich** More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=EN&amp;sap-ui-language=EN#/details/2021/003/SM/50048478">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=EN&amp;sap-ui-language=EN#/details/2021/003/SM/50048478</a>  Time: 16:15-18:00			1 hrs	Tue	16-18	UNI ZH.	<b>A. Iozzi,</b> further speakers
<b>401-4530-00L</b>	<b>Geometry Graduate Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-4530-00 K	Geometry Graduate Colloquium <a href="https://math.ethz.ch/news-and-events/events/research-seminars/geometry-graduate-colloquium.html">https://math.ethz.ch/news-and-events/events/research-seminars/geometry-graduate-colloquium.html</a>			1 hrs	Thu	16-17	HG G19.2	Speakers
<b>401-5110-00L</b>	<b>Number Theory Seminar</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5110-00 K	Number Theory Seminar			1 hrs	Fri	14-15	HG G43	<b>Ö. Imamoglu, E. Kowalski,</b> <b>R. Pink, G. Wüstholtz</b>
<b>401-5350-00L</b>	<b>Analysis Seminar</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5350-00 K	Analysis Seminar **together with University of Zurich**			1 hrs	Tue	15-16	HG G43	A. Carlotto, F. Da Lio, A. Figalli, N. Hungerbühler, M. Iacobelli, T. Ilmanen, L. Keller, T. Riviére, J. Serra, University lecturers
<b>401-5370-00L</b>	<b>Ergodic Theory and Dynamical Systems</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				

401-5370-00 K	Ergodic Theory and Dynamical Systems **together with University of Zurich** <a href="https://www.math.ethz.ch/news-and-events/events/research-seminars/ergodic-theory-and-dynamical-systems.html">https://www.math.ethz.ch/news-and-events/events/research-seminars/ergodic-theory-and-dynamical-systems.html</a>			1 hrs	Mon	15-16	I27 H28	<b>M. Akka Ginossar, M. Einsiedler</b> , University lecturers
<b>401-5530-00L</b>	<b>Geometry Seminar</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5530-00 K	Geometry Seminar **together with University of Zurich** 15:45-16:45			1 hrs	Wed	16-17	HG G43	<b>M. Burger</b> , M. Einsiedler, P. Feller, A. Iozzi, U. Lang, University lecturers
<b>401-5580-00L</b>	<b>Symplectic Geometry Seminar</b>	<b>E-</b>	<b>0 credits</b>	<b>2K</b>				
401-5580-00 K	Symplectic Geometry Seminar			2 hrs	Mon	16-18	HG G43	<b>P. Biran</b> , A. Cannas da Silva
<b>401-5330-00L</b>	<b>Talks in Mathematical Physics</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5330-00 K	Talks in Mathematical Physics **together with University of Zurich**			1 hrs	Thu	15-17	HG G43	<b>P. E. Y. Bousseau, A. Cattaneo, G. Felder, M. Gaberdiel, G. M. Graf, T. H. Willwacher</b>
<b>401-5650-00L</b>	<b>Zurich Colloquium in Applied and Computational Mathematics</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5650-00 K	Zurich Colloquium in Applied and Computational Mathematics **together with University of Zurich** More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html#details/2021/003/SM/50027666">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html#details/2021/003/SM/50027666</a>			1 hrs	Wed	16-17	HG E1.2	<b>R. Abgrall, R. Alaifari, H. Ammari, R. Hiptmair, S. Mishra, S. Sauter</b>
<b>401-5600-00L</b>	<b>Seminar on Stochastic Processes</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5600-00 K	Seminar on Stochastic Processes **together with University of Zurich**			1 hrs	Wed	17-18	HG G19.1	<b>J. Bertoin, A. Nikeghbali, B. D. Schlein, V. Tassion, W. Werner</b>
<b>401-5620-00L</b>	<b>Research Seminar on Statistics</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5620-00 K	Research Seminar on Statistics **together with University of Zurich**  Starting time may vary (depending on whether the ZüKoSt also takes place). For details see <a href="https://www.math.ethz.ch/news-and-events/events/research-seminars/statistics-research-seminar.html">https://www.math.ethz.ch/news-and-events/events/research-seminars/statistics-research-seminar.html</a>			1 hrs	Fri	15-17	HG G19.1	<b>P. L. Bühlmann, M. H. Maathuis, N. Meinshausen, S. van de Geer</b> , A. Bandeira, R. Furrer, L. Held, T. Hothorn, D. Kozbur, M. Wolf
<b>401-5640-00L</b>	<b>ZüKoSt: Seminar on Applied Statistics</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5640-00 K	ZüKoSt: Seminar on Applied Statistics **gemeinsam mit der Universität Zürich**  Zeit: 15:15-16:30 Nach besonderem Programm gemäss Ankündigung, Koordination M. Kalisch Tel. 044 632 3435			10s hrs	Fri	15-17	HG G19.1	<b>M. Kalisch</b> , F. Balabdaoui, A. Bandeira, P. L. Bühlmann, R. Furrer, L. Held, T. Hothorn, M. H. Maathuis, M. Mächler, L. Meier, M. Robinson, C. Strobl, S. van de Geer
<b>401-5680-00L</b>	<b>Foundations of Data Science Seminar</b>	<b>E-</b>	<b>0 credits</b>					
401-5680-00 K	Foundations of Data Science Seminar <a href="https://www.math.ethz.ch/sfs/news-and-events/data-science-seminar.html">https://www.math.ethz.ch/sfs/news-and-events/data-science-seminar.html</a> Time: 16:15-17:15			3s hrs	23.09. 11.11. 02.12.	16-18 16-18 16-18	HG F3 HG G19.2 HG G19.1	<b>P. L. Bühlmann</b> , A. Bandeira, H. Bölskei, F. Yang
<b>401-5660-00L</b>	<b>Math and Data (MAD+)</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5660-00 K	Math and Data (MAD+) <a href="https://math.ethz.ch/news-and-events/events/research-seminars/math-and-data.html">https://math.ethz.ch/news-and-events/events/research-seminars/math-and-data.html</a>			1 hrs				<b>A. Bandeira</b> , external organisers
<b>401-5910-00L</b>	<b>Talks in Financial and Insurance Mathematics</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5910-00 K	Talks in Financial and Insurance Mathematics by announcement			1 hrs	Thu	17-18	HG G43	<b>P. Cheridito, M. Schweizer, J. Teichmann, M. V. Wüthrich</b>
<b>401-5900-00L</b>	<b>Optimization Seminar</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
401-5900-00 K	Optimization Seminar Mon 16:30-17:30 (dates by announcement)			1 hrs	Mon	16-17	HG G19.1	<b>A. Bandeira, R. Weismantel, R. Zenklusen</b>
<b>401-5960-00L</b>	<b>Colloquium on Mathematics, Computer Science, and Education</b> Subject didactics for mathematics and computer science teachers.	<b>E-</b>	<b>0 credits</b>					
401-5960-00 K	Kolloquium über Mathematik, Informatik und Unterricht Programm: <a href="https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html">https://www.math.ethz.ch/mathematik-und-ausbildung/weiterbildung/kolloquium.html</a>			4s hrs				<b>N. Hungerbühler</b> , M. Akveld, D. Grawehr Morath, J. Hromkovic, P. Spindler
<b>402-0101-00L</b>	<b>The Zurich Physics Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
402-0101-00 K	The Zurich Physics Colloquium **together with University of Zurich**  16:15-17:15 Uhr			1 hrs	Wed	16-17	HPV G4	S. Huber, A. Refregier, University lecturers
<b>402-0800-00L</b>	<b>The Zurich Theoretical Physics Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				

402-0800-00 K	The Zurich Theoretical Physics Colloquium <b>**together with University of Zurich**</b> More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#/details/2021/003/SM/50030258">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#/details/2021/003/SM/50030258</a>  The Colloquium takes place on selected Mondays during the academic semester on the Irchel Campus of UZH or at ETH Hönggerberg Time: 16:45h	1 hrs	Mon	17-18	HIT H42 I16 G05	University lecturers
---------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	-----	-------	--------------------	----------------------

<b>251-0100-00L Computer Science Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>2K</b>				
251-0100-00 K	Kolloquium für Informatik		2 hrs	Mon	16-18	CAB G61	Lecturers

## ► Course Units for Additional Admission Requirements

The courses below are only available for MSc students with additional admission requirements.

Number	Title	Type	ECTS	Hours	Lecturers
<b>406-2004-AAL Algebra II</b>	<b>E-</b>	<b>5 credits</b>	<b>11R</b>		
	Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-2004-AA R	Algebra II Self-study course. No presence required.			150s hrs	<b>M. Burger</b>
<b>406-2005-AAL Algebra I and II</b>	<b>E-</b>	<b>12 credits</b>	<b>26R</b>		
	Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-2005-AA R	Algebra I and II Self-study course. No presence required.			360s hrs	<b>M. Burger, M. Einsiedler</b>
<b>406-2303-AAL Complex Analysis</b>	<b>E-</b>	<b>6 credits</b>	<b>13R</b>		
	Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-2303-AA R	Complex Analysis Self-study course. No presence required.			180s hrs	<b>T. H. Willwacher</b>
<b>406-2284-AAL Measure and Integration</b>	<b>E-</b>	<b>6 credits</b>	<b>13R</b>		
	Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-2284-AA R	Measure and Integration Self-study course. No presence required.			180s hrs	<b>F. Da Lio</b>
<b>406-2554-AAL Topology</b>	<b>E-</b>	<b>6 credits</b>	<b>13R</b>		
	Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-2554-AA R	Topology Self-study course. No presence required.			180s hrs	<b>P. Feller</b>
<b>406-2604-AAL Probability and Statistics</b>	<b>E-</b>	<b>7 credits</b>	<b>15R</b>		
	Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-2604-AA R	Probability and Statistics Self-study course. No presence required.			210s hrs	<b>J. Teichmann</b>

**Mathematics Master - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Micro- and Nanosystems Master

## ► Core Courses

### ►► Devices and Systems

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0166-00L</b>	<b>Analog Integrated Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0166-00 V	Analog Integrated Circuits			2 hrs	Fri	10-12	ETZ E6	<b>T. Jang</b>
227-0166-00 U	Analog Integrated Circuits			2 hrs	Fri	14-16	ETZ E6	<b>T. Jang</b>
<i>Some of the exercise lessons will take place in computer room ETZ D61.1. To be announced during the course lessons.</i>								

### ►► Energy Conversion and Quantum Phenomena

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0913-00L</b>	<b>Introduction to Photonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0913-00 V	Introduction to Photonics			2 hrs	Thu	10-12	HG E22	<b>R. Quidant</b> , J. Ortega Arroyo
151-0913-00 U	Introduction to Photonics			2 hrs	Thu	14-16	HG E22	<b>R. Quidant</b> , J. Ortega Arroyo
<b>402-0595-00L</b>	<b>Semiconductor Nanostructures</b>	<b>W+</b>	<b>6 credits</b>	<b>2V+1U</b>				
402-0595-00 V	Semiconductor Nanostructures			2 hrs	Wed	12-14	HCI J4	<b>T. M. Ihn</b>
402-0595-00 U	Semiconductor Nanostructures <i>or by appointment</i>			1 hrs	Wed	14-15	HIT J51 HIT K52	<b>T. M. Ihn</b>

### ►► Material, Surfaces and Properties

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0509-00L</b>	<b>Microscale Acoustofluidics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0509-00 G	Microscale Acoustofluidics <i>The course will take place on 29.09.21 in ML F 36.</i>			3 hrs	Wed 29.09.	13-16 13-16	LFO C13 ML F36	<b>J. Dual</b>
<b>151-0524-00L</b>	<b>Continuum Mechanics I</b>	<b>W+</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0524-00 V	Continuum Mechanics I			2 hrs	Fri	08-10	HG D5.2	<b>E. Mazza</b> , A. E. Ehret
151-0524-00 U	Continuum Mechanics I <i>Exercises start in the second week of the semester.</i>			1 hrs	Wed	12-13	HG E1.1	<b>E. Mazza</b> , A. E. Ehret
<b>151-0902-00L</b>	<b>Micro- and Nanoparticle Technology</b> <i>Number of participants is limited to 20. Additional ones could be enrolled by permission of the lecturer.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
151-0902-00 V	Micro- and Nanoparticle Technology <i>Permission from lecturers required for all students</i>			2 hrs	Fri	10-12	ML F40	<b>S. E. Pratsinis</b> , G. Kelesidis, K. Wegner
151-0902-00 U	Micro- and Nanoparticle Technology <i>Permission from lecturers required for all students</i>			2 hrs	Wed	14-16	ML F40	<b>S. E. Pratsinis</b> , G. Kelesidis, V. Mavrantzas
<b>327-0505-00L</b>	<b>Surfaces, Interfaces and their Applications I</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>				
327-0505-00 V	Surfaces, Interfaces and their Applications I			2 hrs	Mon	09-11	HCI J7	<b>N. Spencer</b> , M. P. Heuberger, L. Isa
327-0505-00 U	Surfaces, Interfaces and their Applications I			1 hrs	Mon	11-12	HCI J7	<b>N. Spencer</b> , M. P. Heuberger, L. Isa

### ►► Modelling and Simulation

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0107-20L</b>	<b>High Performance Computing for Science and Engineering (HPCSE) I</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>				
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h Exercises: 14-16h</i>			4 hrs	Fri	12-14 14-16	ML H44 ML H44	<b>P. Koumoutsakos</b> , S. M. Martin
<b>227-2037-00L</b>	<b>Physical Modelling and Simulation</b>	<b>W+</b>	<b>6 credits</b>	<b>4G</b>				
227-2037-00 G	Physical Modelling and Simulation			4 hrs	Thu	08-12	ETZ E6	<b>J. Smajic</b>

### ►► Laboratory Course

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0620-00L</b>	<b>Embedded MEMS Lab</b>	<b>W+</b>	<b>5 credits</b>	<b>3P</b>				
151-0620-00 P	Embedded MEMS Lab <i>- First part of the compulsory introductory lecture: Monday 27.09.2021 from 13:15h to 18h (venue: tbd) - Second part of the compulsory introductory lecture: Monday 04.10.2021 from 13:15h to 18h (venue: tbd) - Practical portion of the course in the cleanrooms of CLA: 7 consecutive Mondays from 13:00 (exact) to ~18:30 during the Semester. Starting days for groups are staggered. - Attendance is required at all meetings of the course.</i>			45s hrs	Mon	13-14	ML J34.1 ML J34.3 ML J37.1 CLA G2 ML H43 ML H43	<b>C. Hierold</b> , S. Blunier, M. Haluska

### ►► Elective Core Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0409-00L</b>	<b>Multiphysics Modeling and Simulation</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				



151-0409-00 V	Multiphysics Modeling and Simulation			2 hrs	Wed	12-14	LFV E41	<b>C. I. Roman</b>
151-0409-00 U	Multiphysics Modeling and Simulation			2 hrs	Wed	16-18	LFV E41	<b>C. I. Roman</b>
<b>151-0525-00L</b>	<b>Dynamic Behavior of Materials</b> <i>Note: previous course title until HS19 "Wave Propagation in Solids".</i>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0525-00 V	Dynamic Behavior of Materials			2 hrs	Fri	10-12	HG D5.2	<b>D. Mohr, C. Roth, T. Tancogne-Dejean</b>
151-0525-00 U	Dynamic Behavior of Materials			2 hrs	Fri	12-14	HG D5.2	<b>D. Mohr, C. Roth, T. Tancogne-Dejean</b>
<b>151-0532-00L</b>	<b>Nonlinear Dynamics and Chaos I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0532-00 V	Nonlinear Dynamics and Chaos I			2 hrs	Wed	10-12	LFW B1	<b>G. Haller</b>
151-0532-00 U	Nonlinear Dynamics and Chaos I			2 hrs	Tue	16-18	ML F39	<b>G. Haller</b>
<b>151-0593-00L</b>	<b>Embedded Control Systems</b>	<b>W</b>	<b>4 credits</b>	<b>6G</b>				
151-0593-00 G	Embedded Control Systems <i>This two-week block course takes place daily (13-17.09.2021 &amp; 20-24.09.2021) and is comprised of</i> <i>- Lectures: 8-12 h</i> <i>- Exercises: 13-17 h</i>			80s hrs	13.09. 13.09.- 17.09. 13.09.- 24.09. 20.09. 21.09. 22.09. 23.09. 24.09.	08-10 08-12 13-17 08-12 13-17 08-12 08-12 15-17 08-12 08-12	ML H44 HG G26.5 ML J44.1 HG F26.3 ML J44.1 HG F26.3 HG F26.3 ML F39 HG F26.3 LEE E101	<b>J. S. Freudenberg, M. Schmid Daners</b>
<b>151-0605-00L</b>	<b>Nanosystems</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>				
151-0605-00 G	Nanosystems <i>Lecture: Thursday 10-13. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i> <i>Exercises: will take place in the laboratories.</i>			4 hrs	Thu	10-13	ML F40	<b>A. Stemmer</b>
<b>151-0621-00L</b>	<b>Microsystems I: Process Technology and Integration</b>	<b>W</b>	<b>6 credits</b>	<b>3V+3U</b>				
151-0621-00 V	Microsystems I: Process Technology and Integration <i>The lecture starts in the second week of the Semester.</i>			3 hrs	Thu	13-16	HG E5	<b>C. Hierold, M. Haluska</b>
151-0621-00 U	Microsystems I: Process Technology and Integration <i>The exercise starts in the third week of the Semester.</i>			3 hrs	Tue	16-19	HG E1.2	<b>M. Haluska</b>
<b>151-0642-00L</b>	<b>Seminar on Micro and Nanosystems</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>				
151-0642-00 S	Seminar on Micro and Nanosystems			1 hrs	Fri	14-16	CLA G2	<b>C. Hierold</b>
<b>151-0911-00L</b>	<b>Introduction to Plasmonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0911-00 V	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>			2 hrs				<b>D. J. Norris</b>
151-0911-00 U	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>			1 hrs				<b>D. J. Norris</b>
<b>227-0145-00L</b>	<b>Solid State Electronics and Optics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0145-00 G	Solid State Electronics and Optics			4 hrs	Mon Thu	14-16 14-16	ML F38 LFW C4	<b>N. Yazdani, V. Wood</b>
<b>227-0157-00L</b>	<b>Semiconductor Devices: Physical Bases and Simulation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0157-00 G	Semiconductor Devices: Physical Bases and Simulation <i>Falls alle Hörende es wünschen, kann die Vorlesung auch auf Deutsch gehalten werden.</i>			3 hrs	Mon	09-12	ETZ G91	<b>A. Schenk, C. I. Roman</b>
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
227-0225-00 G	Linear System Theory			5 hrs	Mon Wed 22.09.	09-12 10-12 10-12	IFW A36 ETZ E6 HG D1.1	<b>A. Iannelli</b>
<b>227-0311-00L</b>	<b>Qubits, Electrons, Photons</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>				
227-0311-00 V	Qubits, Electrons, Photons			3 hrs	Thu Fri	08-10 13-14	CHN F42 ETZ E9	<b>T. Zambelli</b>
227-0311-00 U	Qubits, Electrons, Photons			2 hrs	Wed	10-12	HG D3.2	<b>T. Zambelli</b>
<b>227-0468-00L</b>	<b>Analog Signal Processing and Filtering</b> <i>Suitable for Master Students as well as Doctoral Students.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0468-00 V	Analog Signal Processing and Filtering			2 hrs	Wed	08-10	CHN E46	<b>H. Schmid</b>
227-0468-00 U	Analog Signal Processing and Filtering			2 hrs	Wed	10-12	CHN E46	<b>H. Schmid</b>
<b>227-0653-00L</b>	<b>Electromagnetic Precision Measurements and Opto-Mechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
227-0653-00 V	Electromagnetic Precision Measurements and Opto-Mechanics <i>The course will take place online until further notice.</i>			2 hrs	Fri	09-11	ML H34.3	<b>M. Frimmer</b>
227-0653-00 U	Electromagnetic Precision Measurements and Opto-Mechanics <i>The course will take place online until further notice.</i>			1 hrs	Fri	11-12	ML H34.3	<b>M. Frimmer</b>
<b>227-0663-00L</b>	<b>Nano-Optics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0663-00 V	Nano-Optics <i>Does not take place this semester.</i>			2 hrs				<b>M. Frimmer</b>

227-0663-00 U	Nano-Optics <i>Does not take place this semester.</i>		2 hrs						M. Frimmer
<b>402-0447-00L</b>	<b>Quantum Science with Superconducting W Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0447-00 V	Quantum Science with Superconducting Circuits		2 hrs	Fri	14-16	HCI J6			C. Eichler
402-0447-00 U	Quantum Science with Superconducting Circuits		1 hrs	Fri	16-17	HCP E47.1 HCP E47.2 HIL E5			C. Eichler
<b>402-0811-00L</b>	<b>Programming Techniques for Scientific Simulations I</b>	<b>W</b>	<b>5 credits</b>	<b>4G</b>					
402-0811-00 G	Programming Techniques for Scientific Simulations I		4 hrs	Thu	14-18	HCI J3			R. Käppeli
<b>529-0611-01L</b>	<b>Molecular Aspects of Catalysts and Surfaces</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
529-0611-01 G	Molecular Aspects of Catalysts and Surfaces <i>In addition to the lecture, there will be an laboratory exercise class on some Mondays from 10-11. Students will be informed at the beginning of the semester.</i>		4 hrs	Tue Wed	16-18 10-12	HCI H2.1 HCI D8			J. A. van Bokhoven, D. Ferri
<b>529-0643-01L</b>	<b>Process Design and Development</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0643-01 G	Process Design and Development		3 hrs	Tue Wed	10-12 13-14	HCI D8 HCI H2.1			G. Guillén Gosálbez
<b>701-1239-00L</b>	<b>Aerosols I: Physical and Chemical Principles</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
701-1239-00 V	Aerosols I: Physical and Chemical Principles		2 hrs	Mon	14-16	CAB G52			M. Gysel Beer, D. Bell, E. Weingartner
701-1239-00 U	Aerosols I: Physical and Chemical Principles		1 hrs	Mon	13-14	CAB G52			M. Gysel Beer, D. Bell, E. Weingartner
<b>752-3103-00L</b>	<b>Food Rheology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-3103-00 V	Food Rheology I		2 hrs	Tue	08-10	LFO C13			P. A. Fischer

### ► Multidisciplinary Courses

The students are free to choose individually from the Course Catalogue of ETH Zurich, ETH Lausanne and the Universities of Zurich (<https://www.uzh.ch/cmsssl/en/studies/application/chmobilityin.html>) and St. Gallen.

Course Catalogue of ETH Zurich

### ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-MAVT.

### ► Semester Project

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-1007-00L</b>	<b>Semester Project Micro- and Nanosystems</b> <i>Only for Micro- and Nanosystems MSc.</i>	<b>O</b>	<b>8 credits</b>	<b>17A</b>	
	<i>The subject of the Semester Project and the choice of the supervisor (ETH-professor) are to be approved in advance by the tutor.</i>				
151-1007-00 A	Semester Project Micro- and Nanosystems			240s hrs by appt.	Professors

### ► Industrial Internship

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-1090-00L</b>	<b>Industrial Internship</b> <i>Access to the company list and request for recognition under <a href="http://www.mavt.ethz.ch/praxis">www.mavt.ethz.ch/praxis</a>.</i>	<b>O</b>	<b>8 credits</b>		
	<i>No registration required via myStudies.</i>				
151-1090-00 P	Industrial Internship				external organisers

### ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-1006-00L</b>	<b>Master's Thesis Micro- and Nanosystems</b> <i>Students who fulfill the following criteria are allowed to begin with their Master's Thesis: a. successful completion of the bachelor program; b. fulfilling of any additional requirements necessary to gain admission to the master programme; c. successful completion of the semester project; d. achievement of 32 ECTS in the category</i>	<b>O</b>	<b>30 credits</b>	<b>64D</b>	

"Core Courses".

*The Master's Thesis must be approved in advance by the tutor and is supervised by a professor of ETH Zurich.  
To choose a titular professor as a supervisor, please contact the D-MAVT Student Administration.*

151-1006-00 D Master's Thesis Micro- and Nanosystems ■

900s hrs by appt.

Professors

#### Micro- and Nanosystems Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

## Exchange Students

### ► Courses for Exchange Students

*Prepare a study plan*

*In case the course catalogue of the upcoming semester is not available yet, please expect it to be like the year before.*

*You can study at ETH Zurich as an exchange student for 1 or 2 semesters, starting in the autumn or in the spring semester.*

*Exchange students may choose courses from different curricula and years, provided that at least two thirds of all courses are taken in the ETH Zurich department they are registered in. Please be sure to coordinate your schedule with your home university.*

*Exam sessions and End-of-semester examinations*

*Like all ETH Zurich students, exchange students are obliged to sit their exams during the official examination periods. Students are requested to be present at ETH Zurich during these periods. You are therefore expected to plan your studies, internships, jobs, and financial means accordingly.*

### ►► Research Project

*The courses below are only available for exchange students.*

Number	Title	Type	ECTS	Hours	Lecturers
<b>900-0005-00L</b>	<b>5 Credit Project</b> <i>ONLY for mobility students.</i>	<b>W</b>	<b>5 credits</b>	<b>11A</b>	
	<i>Any other students (e.g.BSc, MSc, doctoral students) CANNOT enrol for this course unit.</i>				
900-0005-00 A	5 Credit Project			150s hrs	Lecturers
<b>900-0010-00L</b>	<b>10 Credit Project</b> <i>ONLY for mobility students.</i>	<b>W</b>	<b>10 credits</b>	<b>21A</b>	
	<i>Any other students (e.g.BSc, MSc, doctoral students) CANNOT enrol for this course unit.</i>				
900-0010-00 A	10 Credit Project			300s hrs	Lecturers
<b>900-0015-00L</b>	<b>15 Credit Project</b> <i>ONLY for mobility students.</i>	<b>W</b>	<b>15 credits</b>	<b>32A</b>	
	<i>Any other students (e.g.BSc, MSc, doctoral students) CANNOT enrol for this course unit.</i>				
900-0015-00 A	15 Credit Project			450s hrs	Lecturers
<b>900-0020-00L</b>	<b>20 Credit Project</b> <i>ONLY for mobility students.</i>	<b>W</b>	<b>20 credits</b>	<b>43A</b>	
	<i>Any other students (e.g.BSc, MSc, doctoral students) CANNOT enrol for this course unit.</i>				
900-0020-00 A	20 Credit Project			600s hrs	Lecturers
<b>900-0025-00L</b>	<b>25 Credit Project</b> <i>ONLY for mobility students.</i>	<b>W</b>	<b>25 credits</b>	<b>54A</b>	
	<i>Any other students (e.g.BSc, MSc, doctoral students) CANNOT enrol for this course unit.</i>				
900-0025-00 A	25 Credit Project			750s hrs	Lecturers
<b>900-0030-00L</b>	<b>30 Credit Project</b> <i>ONLY for mobility students.</i>	<b>W</b>	<b>30 credits</b>	<b>64A</b>	
	<i>Any other students (e.g.BSc, MSc, doctoral students) CANNOT enrol for this course unit.</i>				
900-0030-00 A	30 Credit Project			900s hrs	Lecturers
<b>900-0060-00L</b>	<b>60 Credit Project</b> <i>ONLY for mobility students.</i>	<b>W</b>	<b>60 credits</b>	<b>129A</b>	
	<i>Any other students (e.g.BSc, MSc, doctoral students) CANNOT enrol for this course unit.</i>				
900-0060-00 A	60 Credit Project			1800s hrs	Lecturers

### ►► Additional Courses

*by individual arrangement*

#### Exchange Students - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Neural Systems and Computation Master

## ► Core Courses

### ►► Compulsory Core Courses

Number	Title	Type	ECTS	Hours						Lecturers
227-1039-00L	<b>Basics of Instrumentation, Measurement, and Analysis (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI502</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>  <i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>	O	4 credits	9S						
227-1039-00 S	Basics of Instrumentation, Measurement, and Analysis (University of Zurich) <b>**Course at University of Zurich**</b>			120s hrs	by appt.					<b>S.-C. Liu</b> , T. Delbrück, R. Hahnloser, G. Indiveri, V. Mante, P. Pyk, D. Scaramuzza, W. von der Behrens
227-1031-00L	<b>Journal Club (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI702</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	O	2 credits	1S						
227-1031-00 S	Journal Club (University of Zurich) <b>**Course at University of Zurich**</b>  <i>Location: please see VVZ UZH</i>			1 hrs						<b>G. Indiveri</b>
227-1043-00L	<b>Neuroinformatics - Colloquia (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI701</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	Z	0 credits	1K						
227-1043-00 K	Neuroinformatics - Colloquia (University of Zurich) <b>**Course at University of Zurich**</b>  <i>Location: please see VVZ UZH</i>			1 hrs	Fri	16-17	UNI ZH.		<b>S.-C. Liu</b> , R. Hahnloser, V. Mante	
227-1045-00L	<b>Readings in Neuroinformatics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI431</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	O	3 credits	1S						
227-1045-00 S	Readings in Neuroinformatics (University of Zurich) <b>**Course at University of Zurich**</b>  <i>Besides the formal course hours, the course work will also require additional time (ca. 2 hours per week) to complete.</i>  <i>Location: please see VVZ UZH</i>			1 hrs	Tue	17-18	UNI ZH.		<b>W. von der Behrens</b> , R. Hahnloser, S.-C. Liu, V. Mante	

### ►► Elective Core Courses

#### ►►► Systems Neurosciences

Number	Title	Type	ECTS	Hours					Lecturers
227-0421-00L	<b>Deep Learning in Artificial and Biological Neuronal Networks</b>	W	4 credits	3G					
227-0421-00 G	Deep Learning in Artificial and Biological Neuronal Networks			3 hrs	Wed	09-12	ML F34		<b>B. Grewe</b>
227-1037-00L	<b>Introduction to Neuroinformatics</b>	W	6 credits	2V+1U+1A					

227-1037-00 V	Introduction to Neuroinformatics		2 hrs	Thu	08-10	NO C60	<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 U	Introduction to Neuroinformatics		1 hrs	Thu	10-11	NO C60	<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 A	Introduction to Neuroinformatics <i>Self-study, no fixed presence required.</i>		1 hrs				<b>V. Mante</b>
<b>227-1051-00L</b>	<b>Systems Neuroscience (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI415</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
227-1051-00 V	Systems Neuroscience (University of Zurich) <b>**Course at University of Zurich**</b>		2 hrs				<b>D. Kiper</b>
227-1051-00 U	Systems Neuroscience (University of Zurich) <b>**Course at University of Zurich**</b>		1 hrs	by appt.			<b>D. Kiper</b>
<i>Dates by arrangement.</i>							

### ►►► Neural Computation and Theoretical Neurosciences

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-1037-00L</b>	<b>Introduction to Neuroinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1A</b>				
227-1037-00 V	Introduction to Neuroinformatics			2 hrs	Thu	08-10	NO C60	<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 U	Introduction to Neuroinformatics			1 hrs	Thu	10-11	NO C60	<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 A	Introduction to Neuroinformatics <i>Self-study, no fixed presence required.</i>			1 hrs				<b>V. Mante</b>
<b>227-0421-00L</b>	<b>Deep Learning in Artificial and Biological Neuronal Networks</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0421-00 G	Deep Learning in Artificial and Biological Neuronal Networks			3 hrs	Wed	09-12	ML F34	<b>B. Grewe</b>

### ►►► Neurotechnologies and Neuromorphic Engineering

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-1037-00L</b>	<b>Introduction to Neuroinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1A</b>				
227-1037-00 V	Introduction to Neuroinformatics			2 hrs	Thu	08-10	NO C60	<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 U	Introduction to Neuroinformatics			1 hrs	Thu	10-11	NO C60	<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 A	Introduction to Neuroinformatics <i>Self-study, no fixed presence required.</i>			1 hrs				<b>V. Mante</b>
<b>227-1033-00L</b>	<b>Neuromorphic Engineering I</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>  <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module INI404 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>				
227-1033-00 V	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich** The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Mon	14-16	ON LINE	<b>T. Delbrück</b> , G. Indiveri, S.-C. Liu
227-1033-00 U	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich**</i>			3 hrs	by appt.			<b>T. Delbrück</b> , G. Indiveri, S.-C. Liu
<i>Dates by arrangement.</i>								

<b>227-0393-10L</b>	<b>Bioelectronics and Biosensors</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0393-10 V	Bioelectronics and Biosensors			2 hrs	Fri	09-11	HG E1.2	<b>J. Vörös</b> , M. F. Yanik

227-0393-10 U	Bioelectronics and Biosensors		2 hrs	Fri	08-09 11-12	HG E1.2 HG E1.2	M. F. Yanik, J. Vörös
<b>► Electives</b>							
Number	Title	Type	ECTS	Hours			Lecturers
<b>401-0151-00L</b>	<b>Linear Algebra</b>	<b>W</b>	<b>5 credits</b>	<b>3V+2U</b>			
401-0151-00 V	Lineare Algebra Vorlesung im HG F1 mit Videoübertragung ins HG F3. Dauer jeweils bis 12:45			3 hrs	Fri	10-13 HG F1 HG F3	<b>V. C. Gradinaru</b>
401-0151-00 U	Lineare Algebra Groups are selected in myStudies. Übungen: Di 16-18 oder Do 16-18 für Studiengang Elektrotechnik und Informationstechnologie gemäss Gruppeneinteilung. Do 10-12 für Studiengang Rechnergestützte Wissenschaften. Übungen in den einzelnen Übungsgruppen beginnen in der zweiten Semesterwoche.  Zusätzlich zu den Übungen wird ein Study Center angeboten: (ab der zweiten Semesterwoche, gemäss <a href="https://metaphor.ethz.ch/x/2020/hs/401-0151-00L/">https://metaphor.ethz.ch/x/2020/hs/401-0151-00L/</a> )			2 hrs	Tue	16-18 CAB G61 CHN C14 CLA E4 ML F40 NO D11 RZ F21 CAB G56 HG F26.5 CHN D48 CHN G46 ETZ E8 ETZ K91 ML E12	<b>V. C. Gradinaru</b>
<b>401-0603-00L</b>	<b>Stochastics (Probability and Statistics)</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>			
401-0603-00 V	Stochastik			2 hrs	Mon	16-18	ETA F5 <b>P. Cheridito</b>
401-0603-00 U	Stochastik Groups are selected in myStudies. Mo 18-19 oder Di 12-13 gemäss Gruppeneinteilung (für Studiengang Materialwissenschaft geht nur Mo 18-19)			1 hrs	Mon	18-19	HG D5.2 HG E33.1 HG G26.5 LFW C5 ML F36 <b>P. Cheridito</b>
<b>402-0811-00L</b>	<b>Programming Techniques for Scientific Simulations I</b>	<b>W</b>	<b>5 credits</b>	<b>4G</b>			
402-0811-00 G	Programming Techniques for Scientific Simulations I			4 hrs	Thu	14-18	HCI J3 <b>R. Käppeli</b>
<b>402-0809-00L</b>	<b>Introduction to Computational Physics</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U</b>			
402-0809-00 V	Introduction to Computational Physics			2 hrs	Tue	10-12	HCI J7 <b>A. Adelmann</b>
402-0809-00 U	Introduction to Computational Physics			2 hrs	Tue	08-10	HCI J7 <b>A. Adelmann</b>
<b>327-0703-00L</b>	<b>Electron Microscopy in Material Science</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>			
327-0703-00 V	Electron Microscopy in Material Science			2 hrs	Fri	08-10	HCI H2.1 <b>K. Kunze</b> , R. Erni, S. Gerstl, F. Gramm, A. Käch, F. Krumeich, M. Willinger
327-0703-00 U	Electron Microscopy in Material Science			2 hrs	Fri	12-14	HCI H2.1 <b>K. Kunze</b> , R. Erni, S. Gerstl, F. Gramm, A. Käch, F. Krumeich, M. Willinger
<b>402-0341-00L</b>	<b>Medical Physics I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0341-00 V	Medical Physics I			2 hrs	Thu	16-18	HPT C103 <b>P. Manser</b>
402-0341-00 U	Medical Physics I			1 hrs	Thu	18-19	HPT C103 <b>P. Manser</b>
<b>227-1047-00L</b>	<b>Consciousness: From Philosophy to Neuroscience (University of Zurich)</b> No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI410  Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
227-1047-00 V	Consciousness: From Philosophy to Neuroscience (University of Zurich) **Course at University of Zurich**			2 hrs	Thu	17-19	UNI ZH. <b>D. Kiper</b>
<b>402-0674-00L</b>	<b>Physics in Medical Research: From Atoms to Cells</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1 <b>B. K. R. Müller</b>
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1 <b>B. K. R. Müller</b>
<b>227-0427-00L</b>	<b>Signal Analysis, Models, and Machine Learning</b> This course was replaced by "Introduction to Estimation and Machine Learning" and "Advanced Signal Analysis, Modeling, and Machine Learning".	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0427-00 G	Signal Analysis, Models, and Machine Learning Does not take place this semester.			4 hrs			<b>H.-A. Loeliger</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>			
252-0535-00 V	Advanced Machine Learning Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1			3 hrs	Thu	15-16	ETA F5 ETF E1 HG F1 HG F3 <b>J. M. Buhmann</b> , C. Cotrini Jimenez



252-0535-00 U	Advanced Machine Learning	2 hrs	Wed	14-16	CAB G61	J. M. Buhmann, C. Cotrini Jimenez
			Thu	16-18	CAB G61	
			Fri	16-18	ML F34	
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>	4 hrs		14-16	CAB G61	J. M. Buhmann, C. Cotrini Jimenez

## ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-ITET

## ► Master's Thesis and Semester Papers/Seminars

### ►► Option 1: Long Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
227-1041-01L	<b>NSC Master's Thesis (long) and Exam (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI503</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>  <i>Only students who fulfil the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>	W	45 credits	96D	
227-1041-01 D	NSC Master's Thesis (Long) and Exam (University of Zurich) **together with University of Zurich**			96 hrs	by appt.
					R. Hahnloser

### ►► Option 2: Short Master's Thesis and Semester Papers/Seminars

#### ►►► Short Master Thesis

Number	Title	Type	ECTS	Hours	Lecturers
227-1041-02L	<b>NSC Master's Thesis (short) and Exam (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI504</i>  <i><a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>  <i>Only students who fulfil the following criteria are allowed to begin with their master thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>	W	29 credits	62D	
227-1041-02 D	NSC Master's Thesis (Short) and Exam (University of Zurich) <i>**together with University of Zurich**</i>			62 hrs	by appt.
					R. Hahnloser

#### ►►► Semester Papers/Seminars

Number	Title	Type	ECTS	Hours	Lecturers
227-1036-01L	<b>NSC Master Short Project I (University of W Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI505</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>		8 credits	17A	
227-1036-01 A	NSC Master Short Project I (University of Zurich) <i>**together with University of Zurich**</i>			17 hrs      by appt.	R. Hahnloser
227-1036-02L	<b>NSC Master Short Project II (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich.</i>	W	8 credits	17A	

Book the corresponding module directly at  
 UZH as an incoming student.  
 UZH Module Code: INI506

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

227-1036-02 A NSC Master Short Project II (University of Zurich)  
 \*\*together with University of Zurich\*\*

17 hrs by appt.

R. Hahnloser

#### Neural Systems and Computation Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Nuclear Engineering Master

MSc Nuclear Engineering is a joint program of EPF Lausanne and ETH Zurich. The first semester takes place in Lausanne. Students therefore have to enroll at EPFL.

For more information about the curriculum and courses see: <http://master.epfl.ch/cms/site/master/lang/en/nuclearengineering>

## ► Core Courses

### ►► 1. Semester (EPFL)

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-2011-00L</b>	<b>Physics of Nuclear Reactors (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>	
151-2011-00 G	Physics of Nuclear Reactors (EPFL) **Course at EPFL**			3 hrs	external organisers
<b>151-2013-00L</b>	<b>Radiation and Reactor Experiments (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>O</b>	<b>4 credits</b>	<b>5G</b>	
151-2013-00 G	Radiation and Reactor Experiments (EPFL) **Course at EPFL**			5 hrs	external organisers
<b>151-2015-00L</b>	<b>Reactor Technology (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>	
151-2015-00 G	Reactor Technology (EPFL) **Course at EPFL**			3 hrs	<b>A. Manera</b> , external organisers
<b>151-2043-00L</b>	<b>Radiation Biology, Protection and Applications (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>	
151-2043-00 G	Radiation Biology, Protection and Applications (EPFL) **Course at EPFL**			3 hrs	external organisers
<b>151-2021-00L</b>	<b>Hydraulic Turbomachines (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>W</b>	<b>4 credits</b>	<b>4G</b>	
151-2021-00 G	Hydraulic Turbomachines (EPFL) **Course at EPFL**			4 hrs	external organisers
<b>151-2023-00L</b>	<b>Nuclear Fusion and Plasma Physics (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>W</b>	<b>4 credits</b>	<b>4G</b>	
151-2023-00 G	Nuclear Fusion and Plasma Physics (EPFL) **Course at EPFL**			4 hrs	external organisers
<b>151-2025-00L</b>	<b>Introduction to Particle Accelerators (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>W</b>	<b>4 credits</b>	<b>4G</b>	
151-2025-00 G	Introduction to Particle Accelerators (EPFL) **Course at EPFL**			4 hrs	external organisers
<b>151-2041-00L</b>	<b>Introduction to Medical Radiation Physics (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>	
151-2041-00 G	Introduction to Medical Radiation Physics (EPFL) **Course at EPFL**			3 hrs	external organisers
<b>151-2047-00L</b>	<b>Physics of Atoms, Nuclei and Elementary Particles (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>W</b>	<b>4 credits</b>	<b>4G</b>	

151-2047-00 G	Physics of Atoms, Nuclei and Elementary Particles (EPFL) **Course at EPFL**		4 hrs						external organisers
<b>151-2049-00L</b>	<b>Energy Conversion and Renewable Energy (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
151-2049-00 G	Energy Conversion and Renewable Energy (EPFL) **Course at EPFL**			3 hrs					external organisers
<b>151-2051-00L</b>	<b>Radiation Detection (EPFL)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at EPFL.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
151-2051-00 G	Radiation Detection (EPFL) **Course at EPFL**			3 hrs					external organisers
<b>151-2005-00L</b>	<b>Elective Project Nuclear Engineering</b> <i>Only for Nuclear Engineering MSc.</i>  <i>The subject of the Elective Project and the choice of the supervisor (ETH or EPFL professor) are to be approved in advance by the tutor.</i>	<b>W</b>	<b>8 credits</b>	<b>17A</b>					
151-2005-00 A	Elective Project Nuclear Engineering			240s hrs	by appt.				Professors
▶▶ 3. Semester (PSI)									
Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0150-00L</b>	<b>Advanced Topics in Nuclear Reactor Materials</b> <i>Students registered at ETH Zurich have to enroll to this course at ETH. EPFL students can enroll to this course directly at EPFL.</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>					
151-0150-00 G	Advanced Topics in Nuclear Reactor Materials <i>This block course will take place at PSI</i>			3 hrs					<b>M. A. Pouchon</b> , P. J.-P. Spätig, M. Streit
<b>151-2037-00L</b>	<b>Nuclear Computations Lab</b> <i>Students registered at ETH Zurich have to enroll to this course at ETH. EPFL students can enroll to this course directly at EPFL.</i>	<b>O</b>	<b>3 credits</b>	<b>3G</b>					
151-2037-00 G	Nuclear Computations Lab <i>This block course will take place at PSI.</i>			35s hrs					<b>A. Pautz</b> , H. Ferroukhi, further lecturers
<b>151-2039-00L</b>	<b>Beyond-Design-Basis Safety</b> <i>Students registered at ETH Zurich have to enroll to this course at ETH. EPFL students can enroll to this course directly at EPFL.</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>					
151-2039-00 G	Beyond-Design-Basis Safety <i>This block course will take place at PSI.</i>			3 hrs					<b>A. Manera</b> , T. Lind, D. Paladino
<b>151-2045-00L</b>	<b>Decommissioning of Nuclear Power Plants</b> <i>Students registered at ETH Zurich have to enroll to this course at ETH. EPFL students can enroll to this course directly at EPFL.</i>	<b>O</b>	<b>4 credits</b>	<b>3G</b>					
151-2045-00 G	Decommissioning of Nuclear Power Plants <i>This block course will take place at PSI.</i>			3 hrs					<b>A. Pautz</b> , F. Leibundgut, A. Manera
<b>151-2005-00L</b>	<b>Elective Project Nuclear Engineering</b> <i>Only for Nuclear Engineering MSc.</i>  <i>The subject of the Elective Project and the choice of the supervisor (ETH or EPFL professor) are to be approved in advance by the tutor.</i>	<b>W</b>	<b>8 credits</b>	<b>17A</b>					
151-2005-00 A	Elective Project Nuclear Engineering			240s hrs	by appt.				Professors
<b>227-0385-10L</b>	<b>Biomedical Imaging</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0385-10 G	Biomedical Imaging **together with University of Zurich**			5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7		<b>S. Kozerke</b> , K. P. Prüssmann
<b>227-0965-00L</b>	<b>Micro and Nano-Tomography of Biological Tissues</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues			3 hrs	Mon	09-12	ETZ E9		<b>M. Stampanoni</b> , F. Marone Welford

### ▶ Electives

Course from the catalogue of Master courses ETH Zurich and EPFL. At least 4 credit points must be collected from the offer of Science in Perspective (SiP) compulsory electives at ETH Zurich or Management of Technology and Entrepreneurship at EPFL.

### ▶ Industrial Internship

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-1090-00L</b>	<b>Industrial Internship</b> <i>Access to the company list and request for</i>	<b>O</b>	<b>8 credits</b>						

## ► Semester Project

Number	Title	Type	ECTS	Hours	Lecturers
151-1020-00L	<b>Semester Project Nuclear Engineering</b> <i>Only for Nuclear Engineering MSc.</i>	O	8 credits	17A	
	<i>The subject of the Semester Project and the choice of the supervisor (ETH or EPFL professor) are to be approved in advance by the tutor.</i>				
151-1020-00 A	Semester Project Nuclear Engineering			240s hrs by appt.	Professors

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
151-1009-00L	<b>Master's Thesis Nuclear Engineering</b> <i>Students who fulfill the following criteria are allowed to begin with their Master's Thesis:</i> <i>a. successful completion of the bachelor programme;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i> <i>c. successful completion of the semester project.</i> <i>d. completion of minimum 72 ECTS in the categories "Core Courses" and "Electives" in the Master studies and completion of 8 ECTS in the "Semester Project"</i>	O	30 credits	64D	
	<i>For the supervision of the Master's Thesis, the following professors can be chosen: H.-M. Prasser (ETHZ), M.Q. Tran (EPFL), A. Pautz (EPFL)</i>				
151-1009-00 D	Master's Thesis Nuclear Engineering ■			900s hrs by appt.	Supervisors

### Nuclear Engineering Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Pharmaceutical Sciences Master

## ► Core Courses I

Number	Title	Type	ECTS	Hours					Lecturers
<b>535-0030-00L</b>	<b>Therapeutic Proteins</b>	<b>O</b>	<b>3 credits</b>	<b>3G</b>					<b>C. Halin Winter, D. Neri</b>
535-0030-00 G	Therapeutic Proteins			3 hrs	Mon	10-13	HIL E9		
<b>535-0041-00L</b>	<b>Pharmacology and Toxicology III</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>					<b>M. Detmar, U. Quitterer</b>
535-0041-00 G	Pharmacology and Toxicology III <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Mon	14-16	HCI G3		
<b>535-0050-00L</b>	<b>Pharmacoepidemiology and Drug Safety</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					<b>A. Burden, S. Russmann</b>
535-0050-00 G	Pharmacoepidemiology and Drug Safety			2 hrs	Fri/1	08-12	ML F36		
<b>535-0546-00L</b>	<b>Patents</b>	<b>O</b>	<b>1 credit</b>	<b>1V</b>					<b>A. Koepf, P. Pliska</b>
535-0546-00 V	Patents			1 hrs	Wed/1	10-12	HCI H8.1		
<b>511-0000-00L</b>	<b>Drug Discovery and Development</b> <i>Only for MSc Pharmaceutical Sciences.</i>	<b>O</b>	<b>2 credits</b>	<b>1G+1S</b>					<b>U. Thibaut, J. Hall</b>
511-0000-00 G	Drug Discovery and Development ■ <i>Two-day block course with group work.</i>			14s hrs	24.11.	10-17	HG F26.3		
535-0901-01 S	From A to Z in Drug Discovery and Development I			1 hrs	Wed/1	08-10	HCI J3		<b>J. Hall, K.-H. Altmann, M. Arand, J. Scheuermann, R. Schibli, H. U. Zeilhofer</b>
<b>511-0007-00L</b>	<b>Scientific Writing and Presenting</b> <i>Only for Pharmaceutical Sciences MSc.</i>	<b>O</b>	<b>2 credits</b>	<b>2G</b>					<b>J. A. Hiss, A. Burden, J. Dolenc, J.-C. Leroux, O. Renn, C. Steuer</b>
511-0007-00 G	Scientific Writing and Presenting ■			2 hrs	Mon	16-18	HCI D8		

## ► Electives I

Number	Title	Type	ECTS	Hours					Lecturers
<b>535-0011-00L</b>	<b>Drug Seminar</b> <i>The course is reserved for students registered in the Master's programme in Pharmacy or in Pharmaceutical Sciences</i>	<b>W</b>	<b>5 credits</b>	<b>9S</b>					<b>A. Burden, K.-H. Altmann, M. Detmar, K. Eyer, C. Halin Winter, J. Hall, S.-D. Krämer, J.-C. Leroux, C. Müller, V. I. Otto, U. Quitterer, R. Schibli, C. Steuer</b>
535-0011-00 S	Drug Seminar ■ <i>Presentation on 4th and 5th of November 2021</i>			125s hrs	23.09.	16-18	HCI J7		
					04.11.	08-18	HIT E51		
					05.11.	08-18	HIT E51		
<b>511-1001-00L</b>	<b>Biopharmacy (Crash Course)</b> <i>Only for Pharmaceutical Sciences MSc.</i>  <i>Obligatory course if assigned by the Admission committee.</i>	<b>E-</b>	<b>2 credits</b>	<b>1S</b>					<b>S.-D. Krämer</b>
511-1001-00 S	Biopharmacy (Crash Course)			14s hrs	Tue/1	10-12	HCI J8		
<b>511-1002-00L</b>	<b>Pharmaceutical Analytics and Pharmacopeia (Crash Course)</b> <i>Only for Pharmaceutical Sciences MSc.</i>  <i>Obligatory course if assigned by the Admission committee.</i>	<b>E-</b>	<b>2 credits</b>	<b>1S</b>					<b>C. Steuer</b>
511-1002-00 S	Pharmaceutical Analytics and Pharmacopeia (Crash Course)			10s hrs	by appt.				
<b>511-1003-00L</b>	<b>Gene Technology (Crash Course)</b> <i>Only for Pharmaceutical Sciences MSc.</i>  <i>Obligatory course if assigned by the Admission committee.</i>	<b>E-</b>	<b>1 credit</b>	<b>1S</b>					<b>J. Scheuermann</b>
511-1003-00 S	Gene Technology (Crash Course)			1 hrs	Wed/1	16-18	HCI J443		
<b>535-0423-00L</b>	<b>Drug Delivery and Drug Targeting</b>	<b>W</b>	<b>2 credits</b>	<b>1.5V</b>					<b>J.-C. Leroux, A. Steinauer</b>
535-0423-00 V	Drug Delivery and Drug Targeting			1.5 hrs	Tue/1	13-16	HIL E9		
<b>535-0250-00L</b>	<b>Biotransformation of Drugs and Xenobiotics</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					<b>S.-D. Krämer</b>
535-0250-00 V	Biotransformation of Drugs and Xenobiotics			1 hrs	Tue/1	08-10	HIL E7		
<b>535-0015-00L</b>	<b>History of Pharmacy</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					<b>S. Ruppen</b>
535-0015-00 V	Geschichte der Pharmazie			1 hrs	Tue/1	14-16	HCI D8		
<b>535-0344-00L</b>	<b>From Ethnopharmacy to Molecular Pharmacognosy</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					<b>B. Frei Haller, A. Lardos</b>
535-0344-00 V	Von Ethnopharmazie zu molekularer Pharmakognosie			1 hrs	Wed/1	10-12	HIL E8		
<b>535-0310-00L</b>	<b>Glycobiology in Drug Development</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					<b>V. I. Otto</b>
535-0310-00 V	Glycobiology in Drug Development			1 hrs	Wed/1	14-16	HIL E8		
<b>535-0300-00L</b>	<b>Molecular Mechanisms of Drug Actions and Targets</b>	<b>W</b>	<b>2 credits</b>	<b>1V</b>					

<i>Number of participants limited to 24.</i>							
535-0300-00 V	Molecular Mechanisms of Drug Actions and Targets		1 hrs	Tue/1	16-18	HPT C103	<b>J. Scheuermann</b>
<b>535-0021-00L</b>	<b>Vitamins in Health and Disease</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>			
535-0021-00 V	Vitamine in der Vorsorge und Therapie		1 hrs	Wed/1	14-16	HCI J4	<b>C. Müller</b>
<b>535-0360-00L</b>	<b>Evidence Based Phytotherapy</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>			
535-0360-00 V	Rationale Phytotherapie an ausgewählten Beispielen		1 hrs	Wed/1	16-18	HCI J4	<b>K. Berger Büter</b>
<b>535-0137-00L</b>	<b>Clinical Chemistry II</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>			
535-0137-00 V	Clinical Chemistry II		1 hrs	Tue/1	10-12	HCI J4	<b>M. Hersberger</b>
<b>535-0022-00L</b>	<b>Computer-Assisted Drug Design</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>			
535-0022-00 V	Computer-Assisted Drug Design		1 hrs	Mon/1	08-10	HCI D8	<b>S. Riniker, G. Landrum</b>
<b>535-0024-00L</b>	<b>Methods in Drug Design</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>			
<i>Complementary to the practical course "Computer-Assisted Drug Design (Practical Course)" 535-0023-00L. Compulsory for the students of the practical course, open for other interested students.</i>							
535-0024-00 V	Methods in Drug Design ■ <i>Does not take place this semester. Block lecture Mandatory kick-off meeting</i>		20s hrs				<b>G. Schneider</b>
<b>535-0023-00L</b>	<b>Computer-Assisted Drug Design (Practical Course)</b>	<b>W</b>	<b>4 credits</b>	<b>6P</b>			
<i>Limited number of participants.</i>							
535-0023-00 P	Praktikum Computer-Assisted Drug Design ■ <i>Does not take place this semester. Block lecture Mandatory kick-off meeting</i>		80s hrs				<b>G. Schneider</b>

## ► Research Project

Number	Title	Type	ECTS	Hours	Lecturers
<b>511-0003-00L</b>	<b>Practical Methods in Pharmaceutical Sciences</b>	<b>O</b>	<b>8 credits</b>	<b>17A</b>	
<i>Course title until HS 2020: Research Project I</i>					
511-0003-00 A	Practical Methods in Pharmaceutical Sciences ■			17 hrs	Lecturers

## ► Electives II

Number	Title	Type	ECTS	Hours	Lecturers
<b>511-0004-00L</b>	<b>Research Project</b>	<b>W</b>	<b>15 credits</b>	<b>39A</b>	
<i>Course title until HS 2020: Research Project II</i>					
511-0004-00 A	Research Project ■			550s hrs	Lecturers
<b>511-0005-00L</b>	<b>Internship</b>	<b>W</b>	<b>10 credits</b>	<b>31A</b>	
511-0005-00 A	Internship ■			430s hrs	Lecturers
<b>511-0006-00L</b>	<b>Consolidation Work</b>	<b>W</b>	<b>7 credits</b>	<b>14A</b>	
511-0006-00 A	Consolidation Work ■			200s hrs	Lecturers

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>511-0002-00L</b>	<b>Master's Thesis</b>	<b>O</b>	<b>30 credits</b>	<b>40D</b>	
<i>Only students who fulfill the following criteria are allowed to begin with their master thesis: a. successful completion of the bachelor programme; b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>					
511-0002-00 D	Master's Thesis ■			40 hrs by appt.	Lecturers

## ► GESS Science in Perspective

<i>see Science in Perspective: Language Courses ETH/UZH</i>					
<i>see Science in Perspective: Type A: Enhancement of Reflection Capability</i>					
<i>Recommended Science in Perspective (Type B) for D-CHAB</i>					

## ► Course Units for Additional Admission Requirements

*The courses below are only available for MSc students with additional admission requirements.*

Number	Title	Type	ECTS	Hours	Lecturers
<b>535-0421-AAL</b>	<b>Galenical Pharmacy I+II</b>	<b>E-</b>	<b>4 credits</b>	<b>7R</b>	
<i>Enrolment ONLY for MSc students with a decree declaring this course unit as an</i>					

	additional admission requirement.				
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
535-0421-AA R	Galenical Pharmacy Self-study course. No presence required.		100s hrs		J.-C. Leroux
<b>535-0521-AAL</b>	<b>Pharmacology and Toxicology I+II</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>4 credits</b>	<b>7R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
535-0521-AA R	Pharmacology and Toxicology I+II Self-study course. No presence required.		100s hrs		U. Quitterer
<b>376-0172-AAL</b>	<b>Anatomy I+II</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
376-0172-AA R	Anatomy I+II Self-study course. No presence required.		150s hrs		D. P. Wolfer
<b>376-0173-AAL</b>	<b>Physiology I+II</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
376-0173-AA R	Physiology I+II self-study course. No presence required.		150s hrs		C. Spengler
<b>406-0603-AAL</b>	<b>Stochastics (Probability and Statistics)</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-0603-AA R	Stochastics (Probability and Statistics) Self-study course. No presence required.		120s hrs		M. Kalisch
<b>551-0110-AAL</b>	<b>Fundamentals of Biology II: Microbiology</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>2 credits</b>	<b>2R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
551-0110-AA R	Fundamentals of Biology II: Microbiology Self-study course. No presence required.		24s hrs		J. Vorholt-Zambelli
<b>551-1323-AAL</b>	<b>Fundamentals of Biology II: Biochemistry and Molecular Biology</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>4 credits</b>	<b>11R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
551-1323-AA R	Fundamentals of Biology II: Biochemistry and Molecular Biology Self-study course. No presence required.		150s hrs		K. Locher, N. Ban, R. Glockshuber, E. Weber-Ban
<b>551-0103-AAL</b>	<b>Fundamentals of Biology II: Cell Biology</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
551-0103-AA R	Fundamentals of Biology II: Cell Biology Self-study course. No presence required.		150s hrs		U. Kutay, Y. Barral, G. Schertler, U. Suter, S. Werner



**Pharmaceutical Sciences Master - Key for Type**

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Pharmaceutical Sciences Bachelor

## ► Bachelor Studies (Programme Regulations 2020)

### ►► First Year Compulsory Subjects

### ►►► First Year Examinations

### ►►►► First Year Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
529-1001-01L	General Chemistry (for Biol./Pharm.Sc.)	O	4 credits	4V+2U				
529-1001-01 V	Allgemeine Chemie (für Biol./Pharm.Wiss./HST) <i>Di 10-12 Uhr im HG F1 mit Videoübertragung ins HG F3</i> <i>Do 8-10 Uhr im HCl G3 mit Videoübertragung ins HCl G7</i>			4 hrs	Tue	10-12	HG F1 HG F3 HCl G3 HCl G7	J. Cvengros
529-1001-01 U	Allgemeine Chemie (für Biol./Pharm.Wiss.) <i>Die Übungen beginnen erst in der zweiten Woche, sind fakultativ und wie folgt vorgesehen:</i> <i>Pharma: Mi 8-10</i> <i>BIOL: Fr 8-10</i>			2 hrs	Wed	08-10	HCl D2 HCl H8.1 HCl J4	J. Cvengros
					Fri	08-10	HCl D8 HIT H42 HPT C103	
529-1011-00L	Organic Chemistry I (for Biol./Pharm.Sc./HST)	O	4 credits	4G				
529-1011-00 G	Organische Chemie I (für Biol./Pharm.Wiss./HST) <i>Groups are selected in myStudies.</i> <i>Vorlesung: Mi 10-12 Uhr im HCl G3 mit Videoübertragung ins HCl G7</i> <i>In den ersten beiden Wochen findet auch Fr 14-16 Vorlesung im HPH G 1 statt.</i>  <i>Die Übungen beginnen in der dritten Semesterwoche und sind wie folgt vorgesehen: Fr 14-16 oder 16-18 Uhr (nach Einteilung).</i>			4 hrs	Wed	10-12	HCl G3 HCl G7 HCl D2 HCl D4 HCl D6 HCl D8 HCl E2 HCl E8 HCl F2 HCl F8 HCl G7 HPK D24.2 HPV G4 HPV G5	C. Thilgen
					Fri	14-16	HCl D2 HCl D4 HCl D6 HCl D8 HCl E2 HCl E8 HCl F2 HCl F8 HCl G7 HPK D24.2 HPV G4 HPV G5	
						16-18	HCl D2 HCl D4 HCl D6 HCl D8 HCl E2 HCl E8 HCl F2 HCl F8 HCl G7 HPK D24.2 HPV G4 HPV G5	
					24.09. 01.10.	14-16 14-16	HPH G1 HPH G1	
551-0125-00L	Fundamentals of Biology I: From Molecules to the Biochemistry of Cells	O	6 credits	5G				
551-0125-00 G	Grundlagen der Biologie I: von Molekülen zur Biochemie der Zellen <i>Vorlesung: Montag 12-14 Uhr, Donnerstag 10-12 Uhr</i> <i>Übungen: Freitag 12-13 Uhr oder 13-14 Uhr</i>			5 hrs	Mon	12-14	HCl G7	J. Vorholt-Zambelli, N. Ban,
					Thu	10-12	HCl G7	R. Glockshuber, K. Locher,
					Fri	12-13	HCl G7	J. Piel
						13-14	HCl G7	

### ►►►► First Year Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>535-0001-00L</b>	<b>Introduction to Pharmaceutical Sciences I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
535-0001-00 V	Einführung in die Pharmazeutischen Wissenschaften I			2 hrs	Fri	08-10	HCl J3	<b>J. Hall, K.-H. Altmann,</b> <b>A. Burden, M. Detmar,</b> <b>C. Halin Winter, J.-C. Leroux,</b> <b>U. Qwitterer, R. Schibli,</b> <b>H. U. Zeilhofer</b>
<b>401-0291-00L</b>	<b>Mathematics I</b>	<b>O</b>	<b>6 credits</b>	<b>4V+2U</b>				
401-0291-00 V	Mathematik I <i>Vorlesung im HG F7 mit Videoübertragung ins HG F5.</i>			4 hrs	Mon	08-10	HG F5 HG F7	<b>A. Caspar</b>
					Tue	08-10	HG F5 HG F7	

401-0291-00 U	Mathematik I <i>Groups are selected in myStudies. Di 14-16 für Studiengang Gesundheitswissenschaften und Technologie. Mi 14-16 für Studiengänge Biologie bzw. Pharmazeutische Wissenschaften. StudyCenter: Steht den Studierenden am Dienstag und Mittwoch ab 16 Uhr in Begleitung der Übungen zur Verfügung.</i>	2 hrs	Tue	14-16	CHN D48 ETZ E7 ETZ E8 ETZ F91 ETZ H91 HG D5.1 HG D5.3 HG E33.3 HG G26.1 ML H34.3	<b>A. Caspar</b>
			Wed	14-16	CHN D44 CHN D46 CHN D48 CHN G46 CLA E4 HG F26.5 IFW C31 ML J34.1 ML J34.3	

<b>402-0073-00L</b>	<b>Physics I</b>	<b>O</b>	<b>3 credits</b>	<b>2V+2U</b>				
402-0073-00 V	Physik I			2 hrs	Mon	14-16	HPH G2	<b>T. M. Ihn</b>
402-0073-00 U	Physik I			2 hrs	Mon	16-18	HCI E2 HCI H2.1 HCP E47.2 HIL E10.1 HIT F32 HIT J51 HIT J52 HIT J53 HIT K51 HIT K52 HPK D24.2	<b>T. M. Ihn</b>

### ►►► Additional First Year Courses

Number	Title	Type	ECTS	Hours	Lecturers			
<b>535-0667-00L</b>	<b>Communication and Social Competences</b>	<b>O</b>	<b>1 credit</b>	<b>1V</b>				
535-0667-00 V	Kommunikation und soziale Kompetenz <i>Findet im Rahmen der Einführungsvorlesung in die Pharmazeutischen Wissenschaften statt.</i>			8s hrs				<b>J. Stadelwieser</b>
<b>535-1001-00L</b>	<b>Laboratory Course General Chemistry (for Biology and Pharmacy)</b> <i>Information about the practical course will be given on the first day.</i>  <i>Register in myStudies as early as possible, because the fire protection courses take place separately before the internship starts.</i>	<b>O</b>	<b>6 credits</b>	<b>8P</b>				
535-1001-00 P	Praktikum Allgemeine Chemie (für Biol./Pharm.Wiss.) ■ <i>Informationsveranstaltung zum Praktikum findet am 21.9.2021, nachmittags statt (Raum und Zeit werden am Begrüßungstag bekanntgegeben).</i>  <i>Praktikumsbetrieb ab 3. Semesterwoche: Di: 13 - 18 (Gruppe A) Do: 13 - 18 (Gruppe B)</i>  <i>Theorieunterricht zum Praktikum ab 4. Semesterwoche: Di: 14 - 16 (Gruppe B) Do: 14 - 16 (Gruppe A)</i>			8 hrs	Tue	13-18	HCI C191.3 HCI C191.4 HCI E374 HCI E378 HCI G198.2 HCI J190.2 HCI J192.2 HCI J194.2 HCI J196.2 HCI J198.2 HCI J7	<b>S. Gruber, K.-H. Altmann, J. Hall</b>
					Thu	14-16 13-18	HCI C191.3 HCI C191.4 HCI E374 HCI E378 HCI G198.2 HCI J190.2 HCI J192.2 HCI J194.2 HCI J196.2 HCI J198.2 HCI J6 HCI J7	

### ►► Second Year Courses

#### ►►► Core Courses

Number	Title	Type	ECTS	Hours	Lecturers			
<b>252-0852-00L</b>	<b>Foundations of Computer Science</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
252-0852-00 V	Grundlagen der Informatik <i>Vorlesung im HG F1 mit Videoübertragung ins HG F3.</i>			2 hrs	Mon	14-16	HG F1 HG F3	<b>L. E. Fässler, M. Dahinden</b>

252-0852-00 U	Grundlagen der Informatik <i>Es gibt keine fixen Übungsgruppen. Stattdessen besprechen die Studierenden alle 2 Wochen eine Projektaufgabe individuell mit einer Assistenzperson. Die restlichen Zeiten stehen für die Bearbeitung der Projektaufgaben zur Verfügung.</i>	O	3 credits	2 hrs	Mon	10-12	CAB H56 CAB H57 HG E26.1 HG E26.3 HG E27 16-18 CAB H56 CAB H57 HG E19 HG E26.1 HG E26.3 HG E19 HG E26.1 HG E26.3 HG E27 HG D12	L. E. Fässler, M. Dahinden
401-0643-13L	<b>Statistics II</b>	O	3 credits	2V+1U				
401-0643-13 V	Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST) <i>Findet im HG F 1 mit Videoübertragung im HG F 3 statt.</i>			2 hrs	Wed	10-12	HG F1 HG F3	M. Kalisch
401-0643-13 U	Statistik II (für Biologie/Biochemie – Chem. Biologie/Pharmazeutische Wiss./HST) <i>Groups are selected in myStudies. Do 9-10, Do 12-13 oder Do 13-14 für Studiengang Gesundheitswissenschaften und Technologie. Do 9-10 für Studiengang Biochemie – Chemische Biologie. Do 8-9, Do 10-11 oder Do 11-12. für Studiengang Biologie. Do 8-9 oder Do 9-10 für Studiengang Pharmazeutische Wissenschaften.</i>			1 hrs	Thu	08-09 09-10 10-11 11-12 12-13 13-14	HCI H2.1 HCI H8.1 HCI H2.1 HCI H8.1 HCI H2.1 HCI H2.1 HCI J4 HCI J7 HIT H51 HCI J4 HCI J7 HIT H51	M. Kalisch
					Fri	10-11 11-12	HIT F31.2 HIT F31.2	
551-0127-00L	<b>Fundamentals of Biology III: Multicellularity</b>	O	8 credits	6G				
551-0127-00 G	Grundlagen der Biologie III: Multizellularität			6 hrs	Mon Tue Fri	10-12 10-12 08-10	HCI G3 HCI G3 HCI G3	M. Stoffel, M. Künzler, O. Y. Martin, U. Suter, S. Werner, A. Wutz, S. C. Zeeman
376-0151-00L	<b>Anatomy and Physiology I</b>	O	5 credits	4V				
376-0151-00 V	Anatomie und Physiologie I <i>Mi 8-10h Vorlesung im Hörsaal I24 G 55 mit Videoübertragung ins I03 G 85</i>			4 hrs	Wed Thu	08-10 10-12	I03 G85 I24 G55 HCI G3	D. P. Wolfer, K. De Bock, R. Fiore, S. Meissner, L. Slomianka, C. Spengler, M. Willecke
535-0225-00L	<b>Pharmaceutical Analytics I</b>	O	3 credits	3G				
535-0225-00 G	Pharmazeutische Analytik I ■			3 hrs	Mon Fri	08-09 10-12	HCI J6 HPV G4	C. Steuer

### ▶▶▶ Laboratory Courses

Number	Title	Type	ECTS	Hours				Lecturers	
529-0229-00L	<b>Practical Course Organic Chemistry (for Students of Biology and Pharmaceutical Sciences)</b> <i>Latest online enrolment is 10 days before the beginning of the semester. Students who did not pass the first-year examinations need the lecturers' written permission to take this course.</i>	O	8 credits	12P					
529-0229-00 P	Praktikum Organische Chemie (für Biol./Pharm.Wiss.) ■ <i>Permission from lecturers required for all students Vorbesprechungstermin und weitere Informationen werden im Moodle-Kurs bekanntgegeben. Arbeitsbeginn jeweils zur vollen Stunde (s.t.).  Further information such as date, time, and place of the introductory lecture: see Moodle course. The lab always starts at the top of the hour (s.t.).</i>			12 hrs	Tue	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2 HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	C. Thilgen, Y. Yamakoshi	
					Wed	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2		
					Thu	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2		
					Fri	12-18	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2		
					23.09.	16-19	HCI G3		
					28.09.	13-14	HCI D2		
					30.09.	14-18	HCI E2		
					01.10.	13-18	HCI E2		

► Bachelor Studies (Programme Regulations 2013)

►► Second Year

►►► Second Year Core Subjects

Number	Title	Type	ECTS	Hours	Lecturers			
535-0223-00L	<b>Pharmaceutical Analytics I</b> <i>Only for Pharmaceutical Sciences BSc, Programme Regulations 2013.</i>	O	1 credit	1.5G	<b>C. Steuer</b>			
535-0223-00 G	Pharmazeutische Analytik I <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich. Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.</i>  <i>Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.</i>			1.5 hrs				
529-1023-00L	<b>Physical Chemistry I (for Biology and Pharmacy)</b> <i>Only for - Biologie BSc (Programme Regulations 2013) and - Pharmaceutical Sciences BSc (Programme Regulations 2013)</i>	O	3 credits	2V+1U	<b>R. Riek</b>			
529-1023-00 V	Physikalische Chemie I (für Biol./Pharm.Wiss.) <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich. Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt, aber nur noch im HS 2021.</i>			2 hrs				
529-1023-00 U	Physikalische Chemie I (für Biol./Pharm.Wiss.) <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich. Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.</i>  <i>Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.</i>			1 hrs	<b>R. Riek</b>			
376-0151-00L	<b>Anatomy and Physiology I</b>	O	5 credits	4V	<b>D. P. Wolfer</b> , K. De Bock, R. Fiore, S. Meissner, L. Slomianka, C. Spengler, M. Willecke			
376-0151-00 V	Anatomie und Physiologie I <i>Mi 8-10h Vorlesung im Hörsaal I24 G 55 mit Videoübertragung ins I03 G 85</i>			4 hrs				
					Wed	08-10	I03 G85 I24 G55	
					Thu	10-12	HCI G3	
529-1042-00L	<b>Analytics</b> <i>Only for Pharmaceutical Sciences BSc, Programme Regulations 2013.</i>	O	2 credits	1.5G	to be announced			
529-1042-00 G	Analytik <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich. Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.</i>  <i>Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.</i>			1.5 hrs				
551-0103-00L	<b>Fundamentals of Biology II: Cell Biology</b> <i>Only for - Biologie BSc (Programme Regulations 2013), - Pharmaceutical Sciences BSc (Programme Regulations 2013) - Health Sciences and Technology BSc (Programme Regulations 2017)</i>	O	5 credits	5V	<b>S. Werner</b> , Y. Barral, U. Kutay, G. Schertler, U. Suter, I. Zemp			
551-0103-00 V	Grundlagen der Biologie II: Zellbiologie <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich. Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.</i>  <i>Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.</i>			5 hrs				
551-1323-00L	<b>Fundamentals of Biology II: Biochemistry and Molecular Biology</b> <i>Only for - Biologie BSc (Programme Regulations 2013) and - Pharmaceutical Sciences BSc (Programme Regulations 2013)</i>	O	4 credits	4G				

551-1323-00 G	Grundlagen der Biologie II: Biochemie und Molekularbiologie <i>Lehrveranstaltung im Selbststudium. Keine Anwesenheit erforderlich.</i> <i>Videoaufzeichnungen des Herbstsemesters 2020 werden den Studierenden zur Verfügung gestellt.</i>  <i>Die Lehrveranstaltung wird zum letzten Mal im HS 2021 angeboten.</i>	4 hrs	K. Locher, N. Ban, R. Glockshuber, E. Weber-Ban
---------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	----------------------------------------------------

### ▶▶▶ Laboratory Courses 2nd Year

Number	Title	Type	ECTS	Hours				Lecturers
529-0229-00L	<b>Practical Course Organic Chemistry (for Students of Biology and Pharmaceutical Sciences)</b> <i>Latest online enrolment is 10 days before the beginning of the semester. Students who did not pass the first-year examinations need the lecturers' written permission to take this course.</i>	O	8 credits	12P				
529-0229-00 P	Praktikum Organische Chemie (für Biol./Pharm.Wiss.) ■ <i>Permission from lecturers required for all students Vorbesprechungstermin und weitere Informationen werden im Moodle-Kurs bekanntgegeben. Arbeitsbeginn jeweils zur vollen Stunde (s.t.).</i>  <i>Further information such as date, time, and place of the introductory lecture: see Moodle course. The lab always starts at the top of the hour (s.t.).</i>	■		12 hrs	Tue	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	C. Thilgen, Y. Yamakoshi
					Wed	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	
					Thu	13-19	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	
					Fri	12-18	HCI G290.2 HCI G292.2 HCI G294.2 HCI G296.2 HCI G298.2	
					23.09.	16-19	HCI G3	
					28.09.	13-14	HCI D2	
					30.09.	14-18	HCI E2	
					01.10.	13-18	HCI E2	

### ▶▶ Third Year

#### ▶▶▶ Third Year Core Subjects

Number	Title	Type	ECTS	Hours				Lecturers
535-0230-00L	<b>Medicinal Chemistry I</b>	O	2 credits	2V				J. Hall
535-0230-00 V	Medizinische Chemie I			2 hrs	Mon	10-12	HCI J3 HIL E8 HIL E8	
535-0421-00L	<b>Galenical Pharmacy I</b>	O	2 credits	2G				J.-C. Leroux, E. Giger
535-0421-00 G	Galenische Pharmazie I <i>Unterrichtssprache: Deutsch und Englisch Language: German and English</i>			2 hrs	Fri	10-12	HCI J7	
535-0521-00L	<b>Pharmacology and Toxicology I</b>	O	2 credits	2V				U. Quitterer, J. Abd Alla
535-0521-00 V	Pharmakologie und Toxikologie I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	08-10	HCI J7	
535-0525-00L	<b>Pharmaceutical Cases</b>	O	1 credit	1G				D. Stämpfli, S. Erni, E. Kut Bacs, P. Obrist
535-0525-00 G	Pharmazeutische Fallbeispiele ■			1 hrs	Tue/2	10-12	HCI J4	
535-0333-00L	<b>Pharmaceutical Biology</b>	O	3 credits	2V				K.-H. Altmann, B. Pfeiffer
535-0333-00 V	Pharmazeutische Biologie			2 hrs	Thu	10-12	HCI J6	
535-0810-00L	<b>Gene Technology</b>	O	2 credits	2G				K. Eyer, J. Scheuermann
535-0810-00 G	Gene Technology			2 hrs	Wed	10-12	HCI J6	
535-0830-00L	<b>Pharmaceutical Immunology</b>	O	2 credits	2G				C. Halin Winter, V. Collado Diaz
535-0830-00 G	Pharmaceutical Immunology			2 hrs	Wed	08-10	HCI J6	
535-0210-00L	<b>Radiopharmaceutical Chemistry</b>	O	2 credits	2V				R. Schibli, L. Mu
535-0210-00 V	Radiopharmazeutische Chemie			2 hrs	Thu	08-10	HCI J6	
535-0165-00L	<b>Clinical Microbiology</b>	O	1 credit	1V				K. Lucke
535-0165-00 V	Medizinische Mikrobiologie			1 hrs	Tue/2	08-10	HIL E7	

### ▶▶▶ Laboratory Courses 3rd Year

*Respective lectures must be attended before/together with the Laboratory Courses. Special schedule for the Laboratory Courses.*

Number	Title	Type	ECTS	Hours					Lecturers	
535-0219-00L	Laboratory Course in Pharmaceutical Analytics	O	3 credits	7P						
535-0219-00 P	Praktikum Pharmazeutische Analytik ■ Gemäss separatem Programm			100s hrs	21.09. 22.09.	13-15 13-15	HCI G3 HCI G7		C. Steuer	
535-0166-00L	Medical Microbiology Practical Course	O	1 credit	1G						
535-0166-00 G	Praktikum Medizinische Mikrobiologie ■ Permission from lecturers required for all students Gemäss separatem Programm			20s hrs						A. Lehner
535-0239-00L	Practical Course in Medicinal Chemistry	O	3 credits	7P						
535-0239-00 P	Praktikum Medizinische Chemie ■ Permission from lecturers required for all students Gemäss separatem Programm			100s hrs						J. Hall, M. Detmar, C. Halin Winter, J. Scheuermann
► Compensatory Courses										
Number	Title	Type	ECTS	Hours					Lecturers	
535-0344-00L	From Ethnopharmacy to Molecular Pharmacognosy	W	1 credit	1V						
535-0344-00 V	Von Ethnopharmazie zu molekularer Pharmakognosie			1 hrs	Wed/1	10-12	HIL E8		B. Frei Haller, A. Lardos	
535-0015-00L	History of Pharmacy	W	1 credit	1V						
535-0015-00 V	Geschichte der Pharmazie			1 hrs	Tue/1	14-16	HCI D8		S. Ruppen	
535-0360-00L	Evidence Based Phytotherapy	W	1 credit	1V						
535-0360-00 V	Rationale Phytotherapie an ausgewählten Beispielen			1 hrs	Wed/1	16-18	HCI J4		K. Berger Büter	
535-0021-00L	Vitamins in Health and Disease	W	1 credit	1V						
535-0021-00 V	Vitamine in der Vorsorge und Therapie			1 hrs	Wed/1	14-16	HCI J4		C. Müller	
535-0250-00L	Biotransformation of Drugs and Xenobiotics	W	1 credit	1V						
535-0250-00 V	Biotransformation of Drugs and Xenobiotics			1 hrs	Tue/1	08-10	HIL E7		S.-D. Krämer	
535-0310-00L	Glycobiology in Drug Development	W	1 credit	1V						
535-0310-00 V	Glycobiology in Drug Development			1 hrs	Wed/1	14-16	HIL E8		V. I. Otto	
535-0300-00L	Molecular Mechanisms of Drug Actions and Targets Number of participants limited to 24.	W	2 credits	1V						
535-0300-00 V	Molecular Mechanisms of Drug Actions and Targets			1 hrs	Tue/1	16-18	HPT C103		J. Scheuermann	
535-0423-00L	Drug Delivery and Drug Targeting	W	2 credits	1.5V						
535-0423-00 V	Drug Delivery and Drug Targeting			1.5 hrs	Tue/1	13-16	HIL E9		J.-C. Leroux, A. Steinauer	
535-0022-00L	Computer-Assisted Drug Design	W	1 credit	1V						
535-0022-00 V	Computer-Assisted Drug Design			1 hrs	Mon/1	08-10	HCI D8		S. Riniker, G. Landrum	
376-0021-00L	Materials and Mechanics in Medicine	W	4 credits	3G						
376-0021-00 G	Materials and Mechanics in Medicine Groups are selected in myStudies. lecture: Di 14-16h exercises: Di 16-17h, start at the second week of the semester.  The lecturers will communicate the exact lesson times of the ONLINE-exercises.			3 hrs	Tue	14-16 16-17	HG F1 CHN G42 ETZ E8 HG D7.1 ML H41.1 ON LINE		M. Zenobi-Wong, J. G. Snedeker	
376-1305-00L	Development of the Nervous System (University of Zurich) No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: BIO344  Mind the enrolment deadlines at UZH: https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html	W	3 credits	2V						
376-1305-00 V	Development of the Nervous System (University of Zurich) **together with University of Zurich**  One hour of self-study per week is included in the course.			2 hrs	Mon	08-10	I15 G40		University lecturers	
376-1305-01L	Neural Systems for Sensory, Motor and Higher Brain Functions Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module BIO343 at UZH. Please mind the ETH enrolment deadlines for UZH students: https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html	W	3 credits	2V						

376-1305-01 V	Neural Systems for Sensory, Motor and Higher Brain Functions <b>**together with University of Zurich**</b>			2 hrs	Mon 20.09.	10-12 10-12	I15 G40 I15 G40	<b>G. Schrott</b> , J. Bohacek, L. Filli, W. von der Behrens, further lecturers
<i>BE AWARE: Lecture starts already on 20.09.2021.</i>								
<i>4 hours of self-study (preparation and post-study) per week are included in the course.</i>								
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h</i> <i>Uebungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3	<b>K. Maniura</b> , M. Rottmar, M. Zenobi-Wong
<b>551-0313-00L</b>	<b>Microbiology (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0313-00 V	Microbiology (Part I)			2 hrs	Mon	10-12	HCI G7	<b>W.-D. Hardt</b> , L. Eberl, J. Piel, M. Pilhofer
<b>551-0319-00L</b>	<b>Cellular Biochemistry (Part I)</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
551-0319-00 V	Cellular Biochemistry (Part I)			2 hrs	Mon	14-16	HCI J3	<b>U. Kutay</b> , G. Neurohr, M. Peter, K. Weis, I. Zemp
<b>752-1003-00L</b>	<b>Food Chemistry II</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-1003-00 V	Lebensmittelchemie II			2 hrs	Thu	10-12	CAB G11	<b>L. Nyström</b> , S. Boulos, M. Erzinger
<b>752-4005-00L</b>	<b>Food Microbiology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-4005-00 V	Lebensmittel-Mikrobiologie I			2 hrs	Tue	10-12	HG E1.1	<b>M. Loessner</b>
<b>376-2017-00L</b>	<b>Biomechanics of Sports Injuries and Rehabilitation</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-2017-00 V	Biomechanik von Sportverletzungen und Rehabilitation			2 hrs	Mon	16-18	HG D5.2	<b>K.-U. Schmitt</b> , J. Goldhahn
<b>752-4009-00L</b>	<b>Molecular Biology of Foodborne Pathogens</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-4009-00 V	Molecular Biology of Foodborne Pathogens			2 hrs	Thu	10-12	HG E1.2	<b>M. Loessner</b> , M. Schmelcher, M. Schuppler, E. Wetter Slack
<b>752-5103-00L</b>	<b>Functional Microorganisms in Foods</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
752-5103-00 G	Functional Microorganisms in Foods ■ <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG D7.1	<b>C. Lacroix</b> , A. Geirnaert, A. Greppi
<b>752-6101-00L</b>	<b>Dietary Etiologies of Chronic Disease</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-6101-00 V	Dietary Etiologies of Chronic Disease			2 hrs	Thu	08-10	CAB G11	<b>M. B. Zimmermann</b>
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-6105-00 V	Epidemiology and Prevention			2 hrs	Wed	12-14	CHN C14	<b>M. Puhon</b> , R. Heusser
<b>752-5001-00L</b>	<b>Food Biotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
752-5001-00 V	Food Biotechnology <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon Thu	10-12 09-10	LFV E41 LFV E41	<b>C. Lacroix</b> , F. Constancias, B. Pugin

## ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-CHAB.

## Pharmaceutical Sciences Bachelor - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.



# Pharmacy Master

## ► Core Courses I

Number	Title	Type	ECTS	Hours				Lecturers
535-0011-00L	<b>Drug Seminar</b> <i>The course is reserved for students registered in the Master's programme in Pharmacy or in Pharmaceutical Sciences</i>	O	5 credits	9S				
535-0011-00 S	Drug Seminar ■ <i>Presentation on 4th and 5th of November 2021</i>			125s hrs	23.09. 04.11. 05.11.	16-18 08-18 08-18	HCI J7 HIT E51 HIT E51	<b>A. Burden</b> , K.-H. Altmann, M. Detmar, K. Eyer, C. Halin Winter, J. Hall, S.-D. Krämer, J.-C. Leroux, C. Müller, V. I. Otto, U. Quitterer, R. Schibli, C. Steuer
535-0041-00L	<b>Pharmacology and Toxicology III</b>	O	2 credits	2G				
535-0041-00 G	Pharmacology and Toxicology III <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Mon	14-16	HCI G3	<b>M. Detmar</b> , <b>U. Quitterer</b>
535-0050-00L	<b>Pharmacoepidemiology and Drug Safety</b>	O	3 credits	2G				
535-0050-00 G	Pharmacoepidemiology and Drug Safety			2 hrs	Fri/1	08-12	ML F36	<b>A. Burden</b> , <b>S. Russmann</b>
535-0030-00L	<b>Therapeutic Proteins</b>	O	3 credits	3G				
535-0030-00 G	Therapeutic Proteins			3 hrs	Mon	10-13	HIL E9	<b>C. Halin Winter</b> , D. Neri
535-0137-00L	<b>Clinical Chemistry II</b>	O	1 credit	1V				
535-0137-00 V	Clinical Chemistry II			1 hrs	Tue/1	10-12	HCI J4	<b>M. Hersberger</b>

## ► Core Courses (Clinical Subjects)

Number	Title	Type	ECTS	Hours				Lecturers
535-5512-00L	<b>Triage, Diagnostics, Therapy Support</b>	O	9 credits	12G				
535-5512-00 G	Triage, Diagnostik, Therapiebegleitung ■			168s hrs	Thu/1 Fri/1 09.11.- 10.12.	08-12 14-18 08-17	HG D3.2 ML E12 ML H37.1	<b>E. Kut Bacs</b> , S. Erni, P. Obrist, D. Petralli-Nietlispach, K. Prader-Schneider, I. S. Vogel Kahmann, P. Wiedemeier

## ► Electives

Number	Title	Type	ECTS	Hours				Lecturers
535-0423-00L	<b>Drug Delivery and Drug Targeting</b>	W	2 credits	1.5V				
535-0423-00 V	Drug Delivery and Drug Targeting			1.5 hrs	Tue/1	13-16	HIL E9	<b>J.-C. Leroux</b> , A. Steinauer
535-0250-00L	<b>Biotransformation of Drugs and Xenobiotics</b>	W	1 credit	1V				
535-0250-00 V	Biotransformation of Drugs and Xenobiotics			1 hrs	Tue/1	08-10	HIL E7	<b>S.-D. Krämer</b>
535-0546-00L	<b>Patents</b>	W	1 credit	1V				
535-0546-00 V	Patents			1 hrs	Wed/1	10-12	HCI H8.1	<b>A. Koepf</b> , P. Pliska
535-0015-00L	<b>History of Pharmacy</b>	W	1 credit	1V				
535-0015-00 V	Geschichte der Pharmazie			1 hrs	Tue/1	14-16	HCI D8	<b>S. Ruppen</b>
535-0344-00L	<b>From Ethnopharmacy to Molecular Pharmacognosy</b>	W	1 credit	1V				
535-0344-00 V	Von Ethnopharmazie zu molekularer Pharmakognosie			1 hrs	Wed/1	10-12	HIL E8	<b>B. Frei Haller</b> , A. Lardos
535-0300-00L	<b>Molecular Mechanisms of Drug Actions and Targets</b> <i>Number of participants limited to 24.</i>	W	2 credits	1V				
535-0300-00 V	Molecular Mechanisms of Drug Actions and Targets			1 hrs	Tue/1	16-18	HPT C103	<b>J. Scheuermann</b>
535-0310-00L	<b>Glycobiology in Drug Development</b>	W	1 credit	1V				
535-0310-00 V	Glycobiology in Drug Development			1 hrs	Wed/1	14-16	HIL E8	<b>V. I. Otto</b>
535-0021-00L	<b>Vitamins in Health and Disease</b>	W	1 credit	1V				
535-0021-00 V	Vitamine in der Vorsorge und Therapie			1 hrs	Wed/1	14-16	HCI J4	<b>C. Müller</b>
535-0360-00L	<b>Evidence Based Phytotherapy</b>	W	1 credit	1V				
535-0360-00 V	Rationale Phytotherapie an ausgewählten Beispielen			1 hrs	Wed/1	16-18	HCI J4	<b>K. Berger Büter</b>
535-0022-00L	<b>Computer-Assisted Drug Design</b>	W	1 credit	1V				
535-0022-00 V	Computer-Assisted Drug Design			1 hrs	Mon/1	08-10	HCI D8	<b>S. Riniker</b> , G. Landrum
535-0024-00L	<b>Methods in Drug Design</b> <i>Complementary to the practical course "Computer-Assisted Drug Design (Practical Course)" 535-0023-00L. Compulsory for the students of the practical course, open for other interested students.</i>	W	1 credit	1V				
535-0024-00 V	Methods in Drug Design ■ <i>Does not take place this semester. Block lecture Mandatory kick-off meeting</i>			20s hrs				<b>G. Schneider</b>

535-0023-00L	<b>Computer-Assisted Drug Design (Practical Course)</b> <i>Limited number of participants.</i>	W	4 credits	6P					
535-0023-00 P	Praktikum Computer-Assisted Drug Design ■ <i>Does not take place this semester. Block lecture Mandatory kick-off meeting</i>			80s hrs					<b>G. Schneider</b>

### ► Practical Pharmacy I

Number	Title	Type	ECTS	Hours					Lecturers
535-5521-00L	<b>Therapeutic Skills I</b>	O	3 credits	3G					
535-5521-00 G	Therapeutic Skills I ■			48s hrs	20.09. 10-18	20.09.- 08-18	ML H37.1		<b>A. Küng Krähenmann,</b> S. Erni, E. Kut Bacs, D. Petralli-Nietlispach, D. Stämpfli, I. S. Vogel Kahmann, P. Wiedemeier
535-5522-00L	<b>Therapeutic Skills II</b>	O	3 credits	3G					
535-5522-00 G	Therapeutic Skills II ■			48s hrs	20.09. 10-18	20.09.- 08-18	ML H37.1		<b>A. Küng Krähenmann,</b> S. Erni, E. Kut Bacs, D. Petralli-Nietlispach, D. Stämpfli, I. S. Vogel Kahmann, P. Wiedemeier

### ► Practical Pharmacy II

Number	Title	Type	ECTS	Hours					Lecturers
535-5502-00L	<b>Pharmaceutical Manufacturing in Small Quantities (Compounding)</b>	O	3 credits	5G					
535-5502-00 G	Arzneimittelherstellung in kleinen Mengen ■ <i>Gemäss separatem Programm</i>			64s hrs					<b>P. G. Tiefenböck,</b> A. Romagna
535-5503-00L	<b>Institutional Pharmacy</b>	O	2 credits	3G					
535-5503-00 G	Institutionelle Pharmazie ■			40s hrs	by appt.				<b>P. Wiedemeier,</b> J. Beney, M. Lutters, I. S. Vogel Kahmann
535-5524-00L	<b>Clinical Trainings</b>	O	2 credits	3G					
535-5524-00 G	Clinical Trainings ■			40s hrs					<b>A. Gutzeit,</b> D. Stämpfli, P. Wiedemeier

### ► Compensatory Courses

*The elective courses can be used as compensatory courses.*

### ► GESS Science in Perspective

*see Science in Perspective: Language Courses ETH/UZH*

*see Science in Perspective: Type A: Enhancement of Reflection Capability*

*Recommended Science in Perspective (Type B) for D-CHAB*

### ► Master's Thesis

Number	Title	Type	ECTS	Hours					Lecturers
535-0660-00L	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their master thesis: a. successful completion of the bachelor programme; b. fulfilling of any additional requirements necessary to gain admission to the master programme.</i>	O	30 credits	40D					
535-0660-00 D	Master's Thesis ■			40 hrs	by appt.				Lecturers

### ► Course Units for Additional Admission Requirements

*The courses below are only available for MSc students with additional admission requirements.*

Number	Title	Type	ECTS	Hours					Lecturers
535-0135-AAL	<b>Clinical Chemistry I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	1 credit	2R					
535-0135-AA R	Clinical Chemistry I <i>Self-study course. No presence required.</i>			30s hrs					<b>M. Hersberger</b>
535-0440-AAL	<b>Quality Management in Pharmaceutical Business</b>	E-	1 credit	2R					

Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

535-0440-AA R	Quality Management in Pharmaceutical Business Self-study course. No presence required.			30s hrs	A. Sterchi
<b>406-0603-AAL</b>	<b>Stochastics (Probability and Statistics)</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-0603-AA R	Stochastics (Probability and Statistics) Self-study course. No presence required.			120s hrs	M. Kalisch
<b>551-0110-AAL</b>	<b>Fundamentals of Biology II: Microbiology</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>2 credits</b>	<b>2R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
551-0110-AA R	Fundamentals of Biology II: Microbiology Self-study course. No presence required.			24s hrs	J. Vorholt-Zambelli
<b>551-0103-AAL</b>	<b>Fundamentals of Biology II: Cell Biology</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
551-0103-AA R	Fundamentals of Biology II: Cell Biology Self-study course. No presence required.			150s hrs	U. Kutay, Y. Barral, G. Schertler, U. Suter, S. Werner
<b>551-1323-AAL</b>	<b>Fundamentals of Biology II: Biochemistry and Molecular Biology</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>4 credits</b>	<b>11R</b>	
	Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
551-1323-AA R	Fundamentals of Biology II: Biochemistry and Molecular Biology Self-study course. No presence required.			150s hrs	K. Locher, N. Ban, R. Glockshuber, E. Weber-Ban

#### Pharmacy Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

## Physics (General Courses)

### ► Generally Accessible Seminars and Colloquia

Number	Title	Type	ECTS	Hours				Lecturers
402-0101-00L	The Zurich Physics Colloquium	E-	0 credits	1K				S. Huber, A. Refregier, University lecturers
402-0101-00 K	The Zurich Physics Colloquium <i>**together with University of Zurich**</i>			1 hrs	Wed	16-17	HPV G4	
	16:15-17:15 Uhr							

#### Physics (General Courses) - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
 ■      Special students and auditors need special permission from the lecturers.

# Physics Bachelor

## ► First Year

Minor Courses

GESS Science in Perspective

First Year Compulsory Courses

## ► Bachelor Studies (Programme Regulations 2021)

### ►► First Year Compulsory Courses

### ►►► First Year Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-1261-07L</b>	<b>Analysis I: One Variable</b>	<b>O</b>	<b>10 credits</b>	<b>6V+3U</b>				
401-1261-07 V	Analysis I: eine Variable <i>Mi im HG F1 mit Videoübertragung ins HG F3. Mo und Do im ETA F 5 mit Videoübertragung im ETF E 1</i>			6 hrs	Mon	08-10	ETA F5 ETF E1	<b>M. Einsiedler</b>
					Wed	08-10	HG F1 HG F3	
					Thu	08-10	ETA F5 ETF E1	
401-1261-07 U	Analysis I: eine Variable <i>Groups are selected in myStudies. Übungen Fr 8-10 (Studiengänge Mathematik bzw. Physik) oder Fr 12-14. Dritte Übungsstunde Mi 12-13 oder Mi 13-14 gemäss Gruppeneinteilung. Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a></i>			3 hrs	Wed	12-13	HG E33.1 HG E33.3 HG E33.5 HG F26.5 ML F34 ML F38 ML F40 ML H41.1 ML J34.1 ML J34.3	<b>M. Einsiedler</b>
						13-14	HG E33.1 HG E33.3 HG E33.5 HG F26.5 ML F34 ML F38 ML F40 ML H41.1 ML J34.1 ML J34.3	
					Fri	08-10	CAB G52 CAB G56 CHN D44 CHN D46 CHN D48 CLA E4 ETZ H91 HG G26.3 IFW A34 IFW C31 IFW C33 LEE C104 LEE C114 LEE D101 LEE D105 LFW B3 ML J34.1 ML J34.3 ML J37.1 HCI H8.1	
						12-14		
<b>402-1701-00L</b>	<b>Physics I</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>				
402-1701-00 V	Physik I <i>Findet im HPH G1 statt mit Videoübertragung Di 10-12 ins HCI G7 und Do 14-16 ins HCI J7</i>			4 hrs	Tue	10-12	HCI G7 HPH G1	<b>K. Ensslin</b>
					Thu	14-16	HCI J7 HPH G1	

402-1701-00 U	Physik I Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a>	O	5 credits	2V+2U	2 hrs	Thu	12-14	HCI D4 HCI D6 HCI E2 HCI E8 HCI F2 HCI J8 HCP E47.3 HCP E47.4 HIL B21 HIL D10.2 HIL D60.1 HIL E10.1 HIL E5 HIL F10.3 HIT F31.2 HIT F32 HIT H42 HIT J51 HIT J53 HIT K51 HIT K52 HPK D24.2 HPK D3 HPL D34 HPT C103	K. Ensslin
---------------	---------------------------------------------------------------------------------------------------------------------------------	---	-----------	-------	-------	-----	-------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------

252-0847-00L	Computer Science	O	5 credits	2V+2U					
252-0847-00 V	Informatik Vorlesung im HG F7 mit Videoübertragung ins HG F5.			2 hrs	Tue	14-16	HG F5 HG F7	R. Sasse, F. O. Friedrich Wicker	
252-0847-00 U	Informatik Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a>			2 hrs	Tue	16-18	CAB G59 CHN D48 CHN E42 HG E21 HG E33.1 HG E33.5 HG F26.5 LFW C4	R. Sasse, F. O. Friedrich Wicker	
					Wed	10-12	CHN G46 HG D3.1 HG D3.3 HG D5.1 HG D5.3 HG E21 HG E33.5 HG G26.1 HG G26.3 LFV E41 LFW E13 ML H41.1 ML H34.3		
						16-18			

### ►►► First Year Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
401-1151-00L	Linear Algebra I	O	7 credits	4V+2U				
401-1151-00 V	Lineare Algebra I Vorlesung im HG F7 mit Videoübertragung ins HG F5.			4 hrs	Mon	10-12	HG F5 HG F7	R. Pink
					Wed	14-16	HG F5 HG F7	
401-1151-00 U	Lineare Algebra I Groups are selected in myStudies. Zusätzlich wird das StudyCenter angeboten: <a href="http://studycenter.ethz.ch/">http://studycenter.ethz.ch/</a>			2 hrs	Mon	14-16	CAB G56 CAB G59 CHN D42 CHN D48 CHN G22 HG D5.2 HG E33.1 HG E33.5 HG G26.3 IFW C31 IFW C33 LEE C104 LEE D101 LFW C11 LFW E13 ML F39 ML H41.1 ML J34.3 ML J37.1 RZ F21	R. Pink

### ► Bachelor Studies (Programme Regulations 2016)

#### ►► Second and Third Year Compulsory Courses

#### ►►► Examination Block I

Number	Title	Type	ECTS	Hours				Lecturers
401-2303-00L	Complex Analysis	O	6 credits	3V+2U				

401-2303-00 V	Funktionentheorie			3 hrs	Tue	10-12	NO C60	<b>T. H. Willwacher</b>
					Fri	11-12	NO C60	
401-2303-00 U	Funktionentheorie <i>Groups are selected in myStudies.</i>			2 hrs	Tue	14-16	ETZ E6 HG E33.1 HG G26.3 IFW A32.1 LEE C104 LEE D101 LEE D105 LFW C11 ML F38 ML J34.3 NO C44 NO C6	<b>T. H. Willwacher</b>
<b>401-2333-00L</b>	<b>Methods of Mathematical Physics I</b>	<b>O</b>	<b>6 credits</b>	<b>3V+2U</b>				
401-2333-00 V	Methoden der mathematischen Physik I			3 hrs	Wed	08-10	NO C60	<b>G. Felder</b>
					Fri	10-11	NO C60	
401-2333-00 U	Methoden der mathematischen Physik I <i>Groups are selected in myStudies.</i>			2 hrs	Tue	16-18	CAB G52 CHN G46 HG G26.3 IFW A32.1 LEE D101 LEE D105 LFW C11 ML F38 ML J34.1 ML J34.3 NO C44 NO C6	<b>G. Felder</b>
<b>402-2883-00L</b>	<b>Physics III</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>				
402-2883-00 V	Physik III (Physics III)			4 hrs	Mon	09-11	HPH G2	<b>U. Keller</b>
					Thu	12-14	HPH G2	
402-2883-00 U	Physik III (Physics III) <i>Possible options to be discussed when lecture starts: Language English, German and even Italian or French is possible</i>			2 hrs	Thu	10-12	HCI D4 HCI F2 HCP E47.4 HIL D60.1 HIL E5 HIL F10.3 HIT F31.1 HIT F32 HIT H42 HIT J51 HIT J53 HIT K51 HPL D34	<b>U. Keller</b>

## ▶▶▶ Examination Block II

Number	Title	Type	ECTS	Hours				Lecturers
402-2203-01L	Classical Mechanics	O	7 credits	4V+2U				
402-2203-01 V	Allgemeine Mechanik <i>Die erste Vorlesung (23.09.21) findet im HCI G 7 statt, danach im HPH G 3 bzw. HIL E 3.</i>			4 hrs	Mon	12-14	HPH G3	R. Renner
					Thu	14-16	HIL E3	
					23.09.	14-16	HCI G7	
402-2203-01 U	Allgemeine Mechanik <i>Die Übungen beginnen in der 2. Semesterwoche.</i>			2 hrs	Tue	08-10	CHN D42 CHN D48 CHN E46	R. Renner
					Wed	10-12	HG E33.1 LFW C1 ML F40 ML J34.1 ML J34.3 ML J37.1	
					Fri	14-16	HIL C10.2 HPL D32 HPL D34	

## ▶▶▶ Examination Block III

Number	Title	Type	ECTS	Hours				Lecturers
402-0205-00L	Quantum Mechanics I	O	10 credits	3V+2U				
402-0205-00 V	Quantenmechanik I			3 hrs	Tue	10-12	HPV G4	M. Gaberdiel
					Thu	12-13	HPV G4	
402-0205-00 U	Quantenmechanik I <i>Do 10-12 oder Do 16-18</i>			2 hrs	Thu	10-12	HCI H8.1	M. Gaberdiel
							HIT F31.2	
							HIT K52	
							HPK D24.2	
						16-18	HIL B21	
							HIL E10.1	
							HIT K51	
							HPK D24.2	

## ▶ Core Courses

### ▶▶ Core Courses in Experimental Physics

Number	Title	Type	ECTS	Hours					Lecturers
--------	-------	------	------	-------	--	--	--	--	-----------

<b>402-0263-00L</b>	<b>Astrophysics I</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>					
402-0263-00 V	Astrophysics I			3 hrs	Tue	14-16	HPV G4	<b>S. Lilly</b>	
					Wed	13-14	HPV G5		
402-0263-00 U	Astrophysics I			2 hrs	Thu	08-10	HIT J51	<b>S. Lilly</b>	
							HIT J52		
							HPL D34		
					Fri	14-16	HCP E47.1		
							HIT F32		
							HIT K52		
<b>402-0255-00L</b>	<b>Introduction to Solid State Physics</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>					
402-0255-00 V	Einführung in die Festkörperphysik			3 hrs	Thu	14-16	HPH G3	<b>C. Degen</b>	
					Fri	13-14	HPH G3		
402-0255-00 U	Einführung in die Festkörperphysik <i>Die Übungen beginnen in der 2. Semesterwoche.</i>			2 hrs	Wed	14-16	HCI E2	<b>C. Degen</b>	
	<i>Mi 14-16 oder Do 8-10.</i>						HIT F31.2		
							HIT F32		
					Thu	08-10	HIT H51		
							HIT F31.2		
							HIT F32		
							HIT J53		

## ► Practical Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0000-01L</b>	<b>Physics Lab 1</b> <i>Enrollment is only possible under <a href="https://www.lehrbetrieb.ethz.ch/laborpraktik">https://www.lehrbetrieb.ethz.ch/laborpraktik</a> a. No registration required via myStudies. For further information visit: <a href="https://ap.phys.ethz.ch">https://ap.phys.ethz.ch</a></i>	<b>O</b>	<b>5 credits</b>	<b>1V+4P</b>					
	<i>Only students from 3rd Semester BSc Physics on are admitted to Physics Lab 2.</i>								
402-0000-01 V	Physikpraktikum 1 <i>Ehemals: Einführung in das Experimentieren I (AP I)</i>			1 hrs	Mon	11-12	HPH G2	<b>A. Eichler, M. Kroner</b>	
	<i>Die Vorlesung beginnt in der zweiten Semesterwoche und findet an diesem Tag ausnahmsweise von Montag 14-18 Uhr statt (11- 12 Uhr entfällt).</i>				27.09.	14-18	HPH G3		
402-0000-01 P	Physikpraktikum 1 <i>Praktikumszeiten entweder Mo 15-19 oder Fr 14-18.</i>			4 hrs	Mon	15-19	HPP	<b>A. Eichler, M. Kroner</b>	
					Fri	14-18	HPP		
<b>402-0000-09L</b>	<b>Physics Lab 3</b>	<b>O</b>	<b>7 credits</b>	<b>13P</b>					
402-0000-09 P	Physikpraktikum 3 <i>Montag obligatorisch. Das Praktikum ist auch Di, Mi und Fr geöffnet.</i>			180s hrs	Mon	09-16	HPP	<b>M. Donegà, S. Gvasaliya</b>	

## ► Proseminars, Experimental and Theoretical Semester Papers

*To organise a semester project take contact with one of the instructors.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0210-BSL</b>	<b>Proseminar Theoretical Physics</b> <i>The number of participants is limited.</i>	<b>W</b>	<b>8 credits</b>	<b>4S</b>					
402-0210-BS S	Proseminar Theoretical Physics (Physics Bachelor) ■ <i>Permission from lecturers required for all students First meeting will be communicated During this meeting, the list of student participants will be finalised, topics and tutors will be assigned. Since Proseminar presentations during the course of the semester are often thematically linked, we suggest that all deregistrations from the module be done by the first three weeks of the semester. No shows after this will result in a no show grade.</i>			4 hrs	Mon	08-12	HIT F32 HIT J52	Supervisors	
<b>402-0217-BSL</b>	<b>Semester Project in Theoretical Physics</b>	<b>W</b>	<b>8 credits</b>	<b>15A</b>					
402-0217-BS A	Semesterarbeit in theoretischer Physik (Physik Bachelor) ■ <i>Permission from lecturers required for all students</i>			210s hrs	by appt.			Supervisors	
<b>402-0215-BSL</b>	<b>Experimental Semester Project in Physics</b>	<b>W</b>	<b>8 credits</b>	<b>15A</b>					
402-0215-BS A	Experimentelle Semesterarbeit in Physik (Physik Bachelor) ■ <i>Permission from lecturers required for all students</i>			210s hrs	by appt.			Supervisors	
<b>402-0719-BSL</b>	<b>Particle Physics at PSI (Paul Scherrer Institute)</b>	<b>W</b>	<b>8 credits</b>	<b>15P</b>					
402-0719-00 P	Particle Physics at PSI (Paul Scherrer Institute) ■ <i>Permission from lecturers required for all students Usually three weeks during summer semester break, depending on available PSI beam times. The exact dates are being fixed during FS. Please consult the lecturer.</i>			210s hrs				<b>A. Soter, A. S. Antognini</b>	
<b>402-0717-BSL</b>	<b>Particle Physics at CERN</b>	<b>W</b>	<b>8 credits</b>	<b>15P</b>					
402-0717-00 P	Particle Physics at CERN ■ <i>Permission from lecturers required for all students</i>			210s hrs	by appt.			<b>W. Lustermann</b>	
<b>402-0340-BSL</b>	<b>Medical Physics</b>	<b>W</b>	<b>8 credits</b>	<b>15P</b>					



402-0340-00 P Medizinische Physik ■ 210s hrs by appt. A. J. Lomax, K. P. Prüssmann  
 Permission from lecturers required for all students

**402-0000-10L Physics Lab 4** **W** **8 credits** **15P**  
 Prerequisite: "Physics Lab 3" completed.  
 Before enrolling in "Physics Lab 4", please enrol in "Physics Lab 3".

Enrol at most once in the course of the Bachelor programme!

402-0000-10 P Physikpraktikum 4 210s hrs Mon 09-16 HPP M. Donegà, S. Gvasaliya  
 Montag ist obligatorisch.  
 Das Praktikum ist auch Di, Mi und Fr geöffnet  
 Wer die Vorlesungs- und Übungsbestandteile aus Fortgeschrittenes Experimentieren I (VP I) nicht besucht hat, ist gehalten, diese nachzuholen.

## ► GESS Science in Perspective

### ►► Science in Perspective

see Science in Perspective: Type A:  
 Enhancement of Reflection Capability

Recommended Science in Perspective  
 (Type B) for D-PHYS.

### ►► Language Courses

see Science in Perspective: Language  
 Courses ETH/UZH

## ► Additional Courses, Seminars and Colloquia

### ►► First or Second Year Additional Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0351-00L Astronomy</b>		<b>Z</b>	<b>2 credits</b>	<b>2V</b>					
402-0351-00 V	Astronomie			2 hrs	Wed	10-12	HG E1.2		<b>S. P. Quanz</b>
<b>401-1511-00L Geometry</b>		<b>Z</b>	<b>3 credits</b>	<b>2V+1U</b>					
401-1511-00 V	Geometrie			2 hrs	Fri	14-16	HG F5		<b>T. Ilmanen</b>
Wird im HS 2021 letztmals angeboten.									
401-1511-00 U	Geometrie			1 hrs	Mon/2w	16-18	CHN G42 CLA E4 LEE D101		<b>T. Ilmanen</b>
Groups are selected in myStudies.									

### ►► Additional Courses (from Second Year Mathematics Bachelor)

Number	Title	Type	ECTS	Hours					Lecturers
401-2003-00L	<b>Algebra I</b> <i>The two-semester course Algebra I / Algebra II is offered for the last time in its current version in the Autumn Semester 2021 / Spring Semester 2022.</i>	<b>Z</b>	<b>7 credits</b>	<b>4V+2U</b>					
401-2003-00 V	Algebra I			4 hrs	Wed Fri	14-16 08-10	HG G5 HG G5		<b>L. Halbeisen</b>
401-2003-00 U	Algebra I <i>Groups are selected in myStudies.</i>			2 hrs	Wed	16-18	HG D5.2 HG E33.3 HG F26.5 HG G26.5 LFW C1		<b>L. Halbeisen</b>

### ►► Seminars and Colloquia

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0101-00L The Zurich Physics Colloquium</b>		<b>E-</b>	<b>0 credits</b>	<b>1K</b>					
402-0101-00 K	The Zurich Physics Colloquium **together with University of Zurich**			1 hrs	Wed	16-17	HPV G4		S. Huber, A. Refregier, University lecturers
16:15-17:15 Uhr									
<b>402-0800-00L The Zurich Theoretical Physics Colloquium</b>		<b>E-</b>	<b>0 credits</b>	<b>1K</b>					
402-0800-00 K	The Zurich Theoretical Physics Colloquium **together with University of Zurich** More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030258">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030258</a>			1 hrs	Mon	17-18	HIT H42 I16 G05		University lecturers
The Colloquium takes place on selected Mondays during the academic semester on the Irchel Campus of UZH or at ETH Hönggerberg Time: 16:45h									
<b>401-5330-00L Talks in Mathematical Physics</b>		<b>E-</b>	<b>0 credits</b>	<b>1K</b>					

401-5330-00 K	Talks in Mathematical Physics <i>**together with University of Zurich**</i>			1 hrs	Thu	15-17	HG G43	<b>P. E. Y. Bousseau, A. Cattaneo, G. Felder, M. Gaberdiel, G. M. Graf, T. H. Willwacher</b>
<b>402-0501-00L</b>	<b>Solid State Physics</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>				
402-0501-00 S	Solid State Physics			1 hrs	Thu	18-19	HPF G6	<b>A. Zheludev, C. Degen, K. Ensslin, D. Pescia, M. Sigrist, A. Wallraff</b>
<b>402-0551-00L</b>	<b>Laser Seminar</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>				
402-0551-00 S	Laser Seminar			1 hrs	Mon	18-19	HPF G6	<b>T. Esslinger, J. Faist, J. Home, U. Keller, F. Merkt, H. J. Wörner</b>
<b>402-0600-00L</b>	<b>Nuclear and Particle Physics with Applications</b>	<b>E-</b>	<b>0 credits</b>	<b>2S</b>				
402-0600-00 S	Nuclear and Particle Physics with Applications <i>Durchführung nach Vereinbarung</i>			2 hrs	Tue	18-20	HPK D24.2	<b>A. Rubbia, G. Dissertori, K. S. Kirch, R. Wallny</b>
<b>402-0893-00L</b>	<b>Particle Physics Seminar</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>				
402-0893-00 S	Particle Physics Seminar <i>**together with University of Zurich**</i> More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030294">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030294</a>			1 hrs	Tue	11-13	UNI	<b>T. K. Gehrmann</b>
<b>402-0700-00L</b>	<b>Seminar in Elementary Particle Physics</b> <i>Special Students UZH must book the modul PHY463 directly at UZH.</i>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>				
402-0700-00 S	Seminar in Elementary Particle Physics <i>**together with University of Zurich**</i>  <i>gemäss Ankündigung auf <a href="https://www.psi.ch/en/ltp/thursday-colloquia">https://www.psi.ch/en/ltp/thursday-colloquia</a></i>			1 hrs				<b>M. Spira, University lecturers</b>
<b>402-0746-00L</b>	<b>Seminar: Particle and Astrophysics (Aktuelles aus der Teilchen- und Astrophysik)</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>				
402-0746-00 S	Seminar: Particle and Astrophysics (Aktuelles aus der Teilchen- und Astrophysik) <i>**together with University of Zurich**</i> More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030253">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030253</a>  <i>The course takes place at UZH Irchel Y35 F32</i>			1 hrs	Mon Tue	14-16 14-16	UNI ZH. UNI ZH.	University lecturers
<b>402-0300-00L</b>	<b>IPA Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>				
402-0300-00 S	IPA Colloquium			1 hrs	Tue/2w	16-17	HIT H42	<b>A. Biland, A. Refregier, H. M. Schmid, further lecturers</b>
<b>402-0530-00L</b>	<b>Mesoscopic Systems</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>				
402-0530-00 S	Mesoscopic Systems			1 hrs	Fri	11-12	HPF E6	<b>T. M. Ihn</b>
<b>227-0980-00L</b>	<b>Seminar on Biomedical Magnetic Resonance</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>				
227-0980-00 S	Seminar on Biomedical Magnetic Resonance			1 hrs	Thu	12-13	ETZ E6	<b>K. P. Prüssmann, S. Kozerke, M. Weiger Senften</b>
<b>227-1043-00L</b>	<b>Neuroinformatics - Colloquia (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI701</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>				
227-1043-00 K	Neuroinformatics - Colloquia (University of Zurich) <i>**Course at University of Zurich**</i>  <i>Location: please see VVZ UZH</i>			1 hrs	Fri	16-17	UNI ZH.	<b>S.-C. Liu, R. Hahnloser, V. Mante</b>
<b>402-0396-00L</b>	<b>Recent Research Highlights in Astrophysics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST006</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>				
402-0396-00 S	Recent Research Highlights in Astrophysics (University of Zurich) <i>**Course at University of Zurich**</i>			1 hrs	Thu	16-17	UNI ZH.	University lecturers

## ► Selection of Higher Semester Courses

Number	Title	Type	ECTS	Hours				Lecturers
Electives (Physics Master)								
402-0811-00L	Programming Techniques for Scientific Simulations I	W	5 credits	4G				
402-0811-00 G	Programming Techniques for Scientific Simulations I			4 hrs	Thu	14-18	HCI J3	R. Käppeli
402-0713-00L	Astro-Particle Physics I	W	6 credits	2V+1U				
402-0713-00 V	Astro-Particle Physics I Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.			2 hrs	Thu	14-16	HIT F32	A. Biland
402-0713-00 U	Astro-Particle Physics I or by appointment  Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.			1 hrs	Thu	16-17	HIT F32 HIT H51	A. Biland
402-0737-00L	Energy and Sustainability in the 21st Century (Part I)	W	6 credits	2V+1U				
402-0737-00 V	Energy and Sustainability in the 21st Century (Part I)			2 hrs	Fri	09-11	HIT F32	P. Morf
402-0737-00 U	Energy and Sustainability in the 21st Century (Part I)			1 hrs	Fri	11-12 24.09.	HIT F32 HIT F12	P. Morf
402-0461-00L	Quantum Information Theory	W	8 credits	3V+1U				
402-0461-00 V	Quantum Information Theory			3 hrs	Wed Thu	10-12 14-15	HPV G4 HPV G4	P. Kammerlander
402-0461-00 U	Quantum Information Theory			1 hrs	Thu	15-16	HCI J4 HPV G4	P. Kammerlander
402-0580-00L	Superconductivity	W	6 credits	2V+1U				
402-0580-00 V	Superconductivity			2 hrs	Mon	14-16	HPV G5	V. Geshkenbein
402-0580-00 U	Superconductivity			1 hrs	Mon Wed	16-17 12-13	HIL F10.3 HIL F10.3	V. Geshkenbein
402-0674-00L	Physics in Medical Research: From Atoms to Cells	W	6 credits	2V+1U				
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	B. K. R. Müller
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	B. K. R. Müller
227-1037-00L	Introduction to Neuroinformatics	W	6 credits	2V+1U+1A				
227-1037-00 V	Introduction to Neuroinformatics			2 hrs	Thu	08-10	NO C60	V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 U	Introduction to Neuroinformatics			1 hrs	Thu	10-11	NO C60	V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 A	Introduction to Neuroinformatics Self-study, no fixed presence required.			1 hrs				V. Mante
401-3531-00L	Differential Geometry I At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.	W	10 credits	4V+1U				
401-3531-00 V	Differential Geometry I			4 hrs	Mon Wed	14-16 14-16	ML H44 HG E5	J. Serra
401-3531-00 U	Differential Geometry I Groups are selected in myStudies. Thu 13-14 or Thu 16-17 or Fri 13-14			1 hrs	Thu Fri	13-14 16-17 13-14	HG E22 IFW C31 HG F3	J. Serra
401-3461-00L	Functional Analysis I At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.	W	10 credits	4V+1U				

401-3461-00 V	Functional Analysis I	4 hrs	Mon	10-12	HG D7.1	<b>J. Teichmann</b>
			Thu	14-16	HG G5	
401-3461-00 U	Functional Analysis I <i>Groups are selected in myStudies.</i>	1 hrs	Mon	09-10	HG G26.1 HG G26.5 ML J34.1	<b>J. Teichmann</b>
<b>401-3601-00L</b>	<b>Probability Theory</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.</i>	<b>W</b>		<b>10 credits</b>	<b>4V+1U</b>	
401-3601-00 V	Probability Theory	4 hrs	Tue	10-12	HG D1.2	<b>W. Werner</b>
			Thu	10-12	HG E3	
401-3601-00 U	Probability Theory <i>Groups are selected in myStudies. Tue 14-15 or Tue 15-16 starting in the second week of the semester.</i>	1 hrs	Tue	14-15	HG F26.5 ML H41.1	<b>W. Werner</b>
				15-16	HG F26.5 ML H41.1	
<b>401-3621-00L</b>	<b>Fundamentals of Mathematical Statistics</b>	<b>W</b>		<b>10 credits</b>	<b>4V+1U</b>	
401-3621-00 V	Fundamentals of Mathematical Statistics	4 hrs	Tue	08-10	HG E5	<b>S. van de Geer</b>
			Wed	10-12	HG E7	
401-3621-00 U	Fundamentals of Mathematical Statistics	1 hrs	Tue	12-13	HG D7.1 HG E7	<b>S. van de Geer</b>
<b>402-0247-00L</b>	<b>Electronics for Physicists I (Analogue)</b> <i>Number of participants limited to 40.</i>	<b>W</b>		<b>4 credits</b>	<b>2V+2P</b>	
402-0247-00 V	Electronics for Physicists I (Analogue) <i>Fr 13:45-17:30 (Vorlesung und Praktikum)</i>	2 hrs	Fri	14-16	HPT C103	<b>G. Bison, W. Erdmann</b>
402-0247-00 P	Electronics for Physicists I (Analogue) <i>Fr 13:45-17:30 (Vorlesung und Praktikum)</i>	2 hrs	Fri	16-18	HPT C103	<b>G. Bison, W. Erdmann</b>
<b>402-0010-00L</b>	<b>Basics of Computing Environments for Scientists</b> <i>Enrollment is only possible under <a href="https://www.lehrbetrieb.ethz.ch/laborpraktika">https://www.lehrbetrieb.ethz.ch/laborpraktika</a> a No registration required via myStudies.</i>  <i>Introduction:</i> - IT at D-PHYS (Herzog): 29.9. 1300 - IT at D-PHYS 2. Termin (Herzog): 7.10. 1300  <i>Modules:</i> - Linux Basics I (Müller): 13.10. 1300 - Linux Basics II (Müller): 20.10. 1300 - Python Ecosystem I (Becker): 27.10. 1300 - Python Ecosystem II (Becker): 3.11. 1300 - System Aspects (Herzog): 10.11. 1300	<b>Z</b>		<b>0 credits</b>		
402-0010-00 V	Basics of Computing Environments for Scientists	2s hrs	29.09. 07.10.	13-14 13-14	HPV G4 HPV G4	

#### Physics Bachelor - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Physics TC

Detailed information on the programme at: [www.didaktischeausbildung.ethz.ch](http://www.didaktischeausbildung.ethz.ch)

## ► Educational Science

General course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours	Lecturers			
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V				
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1	<b>E. Stern</b>
851-0240-22L	<b>Coping with Psychosocial Demands of Teaching (EW4 DZ)</b> <i>Number of participants limited to 20.</i>  <i>The successful participation in EW1 ("Human Learning") and EW2 ("Designing Learning Environments for School") is recommended, but not a mandatory prerequisite.</i>	W	2 credits	3S				
851-0240-22 S	Bewältigung psychosozialer Anforderungen im Lehrberuf (EW4 DZ) ■			3 hrs	Tue	09-12	HG E33.1 HG F26.5 HG G26.1	<b>U. Markwalder</b> , S. Maurer, S. Peteranderl
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S				
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1	<b>R. Schumacher</b>
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S				
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40	<b>E. Stern</b>
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S				
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1	<b>P. Edelsbrunner</b> , T. Braas, C. M. Thurn
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S				

► **Subject Didactics and Professional Training**

*Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.*

Number	Title	Type	ECTS	Hours				Lecturers
402-0910-00L	<b>Physics Didactics I: Special Didactics of Physics Teaching</b> <i>Limited number of participants. Further information is available from the lecturer via email: mamohr@ethz.ch</i>  <i>Simultaneous enrolment in Introductory Internship Physics - course 402-0920-00L - is compulsory for Teaching Diploma Physic</i>  <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module 090Phy1 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	O	4 credits	3G				
402-0910-00 G	Fachdidaktik Physik I: Spezielle Didaktik des Physikunterrichts <b>**gemeinsam mit der Universität Zürich**</b>  <i>Zeit: Wöchentlich 15:30-18:00 Ort: Kantonsschule Zürcher Oberland, Schellerstrasse 18, 8620 Wetzikon, Zimmer 2.24</i>  <i>Blockveranstaltung am 7.10. Daten: keine Veranstaltung am 14.10. und 21.10. schriftliche Anmeldung bis 31.8.</i>	■	3 hrs	Thu	15-18	Ex tern	M. Mohr	
402-0915-00L	<b>Teaching Internship Including Examination Lessons Physics</b> <i>Teaching Internship Physics for TC, Repetition of the Teaching Internship is excluded even if Examination Lessons are to be repeated.</i>	O	4 credits	9P				
402-0915-00 P	Unterrichtspraktikum mit Prüfungslektionen Physik <b>Permission from lecturers required for all students</b>	■	120s hrs	by appt.	M. Mohr			
402-0917-00L	<b>Mentored Work Subject Didactics Physics A</b> <i>Mentored Work Subject Didactics in Physics for TC and Teaching Diploma.</i>	O	2 credits	4A				
402-0917-00 A	Mentorierte Arbeit Fachdidaktik Physik A für DZ und Lehrdiplom <b>Permission from lecturers required for all students</b>	■	60s hrs	by appt.	G. Schiltz, A. Vaterlaus			
<b>► Specialized Courses in Respective Subject with Educational Focus</b>								
Number	Title	Type	ECTS	Hours				Lecturers
402-0737-00L	<b>Energy and Sustainability in the 21st Century (Part I)</b>	W	6 credits	2V+1U				
402-0737-00 V	Energy and Sustainability in the 21st Century (Part I)			2 hrs	Fri	09-11	HIT F32	P. Morf
402-0737-00 U	Energy and Sustainability in the 21st Century (Part I)			1 hrs	Fri	11-12	HIT F32	P. Morf
					24.09.	08-12	HIT F12	
402-0922-00L	<b>Mentored Work Specialised Courses in Physics with an Educational Focus A</b> <i>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus in Physics for TC and Teaching Diploma.</i>	O	2 credits	4A				
402-0922-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädag. Fokus Physik A für DZ und Lehrdiplom <b>Permission from lecturers required for all students</b>	■	60s hrs	by appt.	G. Schiltz, A. Vaterlaus			
402-0505-00L	<b>Physics in the Smartphone</b>	W	6 credits	3G				
402-0505-00 G	Physics in the Smartphone <i>Does not take place this semester.</i>			3 hrs	M. Sigrist			
402-0247-00L	<b>Electronics for Physicists I (Analogue)</b> <i>Number of participants limited to 40.</i>	W	4 credits	2V+2P				
402-0247-00 V	Electronics for Physicists I (Analogue) <i>Fr 13:45-17:30 (Vorlesung und Praktikum)</i>			2 hrs	Fri	14-16	HPT C103	G. Bison, W. Erdmann
402-0247-00 P	Electronics for Physicists I (Analogue) <i>Fr 13:45-17:30 (Vorlesung und Praktikum)</i>			2 hrs	Fri	16-18	HPT C103	G. Bison, W. Erdmann

**Physics TC - Key for Type**

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Physics Teaching Diploma

Detailed information on the programme at: [www.didaktischeausbildung.ethz.ch](http://www.didaktischeausbildung.ethz.ch)

## ► Educational Science

Course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours	Lecturers		
851-0242-06L	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	2 credits	2S			
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1 <b>R. Schumacher</b>
851-0242-07L	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	1S			
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40 <b>E. Stern</b>
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S			
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1 <b>P. Edelsbrunner, T. Braas, C. M. Thurn</b>
851-0242-11L	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	W	2 credits	2S			
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114 <b>M. Berkowitz Biran, T. Braas, C. M. Thurn</b>
see Educational Science Teaching Diploma							

## ► Subject Didactics in Physics

Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.

Number	Title	Type	ECTS	Hours	Lecturers		
402-0910-00L	<b>Physics Didactics I: Special Didactics of Physics Teaching</b> <i>Limited number of participants.</i> <i>Further information is available from the lecturer via email: <a href="mailto:mamohr@ethz.ch">mamohr@ethz.ch</a></i>  <i>Simultaneous enrolment in Introductory Internship Physics - course 402-0920-00L - is compulsory for Teaching Diploma Physic</i>  <i>Information for UZH students:</i> <i>Enrolment to this course unit only possible at ETH. No enrolment to module 090Phy1</i>	O	4 credits	3G			



at UZH.  
Please mind the ETH enrolment deadlines  
for UZH students:  
<https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html>

402-0910-00 G Fachdidaktik Physik I: Spezielle Didaktik des Physikunterrichts ■ 3 hrs Thu 15-18 Ex tern **M. Mohr**  
\*\*gemeinsam mit der Universität Zürich\*\*

Zeit: Wöchentlich 15:30-18:00  
Ort: Kantonsschule Zürcher Oberland, Schellerstrasse 18, 8620 Wetzikon, Zimmer 2.24

Blockveranstaltung am 7.10.  
Daten: keine Veranstaltung am 14.10. und 21.10.  
schriftliche Anmeldung bis 31.8.

**402-0917-00L Mentored Work Subject Didactics Physics A** O 2 credits 4A  
Mentored Work Subject Didactics in Physics for TC and Teaching Diploma.

402-0917-00 A Mentorierte Arbeit Fachdidaktik Physik A für DZ und Lehrdiplom ■ 60s hrs by appt. **G. Schiltz, A. Vaterlaus**  
Permission from lecturers required for all students

**402-0918-00L Mentored Work Subject Didactics Physics B** O 2 credits 4A  
Mentored Work Subject Didactics in Physics for TC and Teaching Diploma.

402-0918-00 A Mentorierte Arbeit Fachdidaktik Physik B Lehrdiplom ■ 60s hrs by appt. **G. Schiltz, A. Vaterlaus**  
Permission from lecturers required for all students

## ► Professional Training in Physics

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

**402-0920-00L Introductory Internship Physics** O 3 credits 6P  
Simultaneous enrolment in Physics Didactics: Special Didactics of Physics Teaching - course 402-0910-00L - is compulsory.

402-0920-00 P Einführungspraktikum Physik ■ 90s hrs by appt. **M. Mohr**

**402-0911-00L Teaching Internship Physics** O 8 credits 17P

402-0911-00 P Unterrichtspraktikum Physik Lehrdiplom ■ 240s hrs by appt. **M. Mohr**  
Permission from lecturers required for all students

**402-0913-00L Teaching Internship Physics II** W 4 credits 9P  
Teaching Internship for students upgrading TC to Teaching Diploma.

402-0913-00 P Unterrichtspraktikum II Physik (ohne Prüfungslektionen) ■ 120s hrs by appt. **M. Mohr**  
Permission from lecturers required for all students

**402-0921-01L Examination Lesson I Physics** O 1 credit 2P  
Simultaneous enrolment in "Examination Lesson II Physics" (402-0921-02L) is compulsory.

402-0921-01 P Prüfungslektion untere Stufe Physik für Lehrdiplom ■ 30s hrs by appt. **M. Mohr**  
Permission from lecturers required for all students

**402-0921-02L Examination Lesson II Physics** O 1 credit 2P  
Simultaneous enrolment in "Examination Lesson I Physics" (402-0921-01L) is compulsory.

402-0921-02 P Prüfungslektion obere Stufe Physik für Lehrdiplom ■ 30s hrs by appt. **M. Mohr**  
Permission from lecturers required for all students

## ► Spec. Courses in Resp. Subj. w/ Educ. Focus & Further Subj. Didactics

Core courses that counted towards the Bachelor or Master programme in physics or comprised additional admission requirements in subject didactics are not eligible for the teaching diploma.

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

**402-0351-00L Astronomy** W 2 credits 2V  
402-0351-00 V Astronomie 2 hrs Wed 10-12 HG E1.2 **S. P. Quanz**

**402-0737-00L Energy and Sustainability in the 21st Century (Part I)** W 6 credits 2V+1U

402-0737-00 V Energy and Sustainability in the 21st Century (Part I) 2 hrs Fri 09-11 HIT F32 **P. Morf**

402-0737-00 U Energy and Sustainability in the 21st Century (Part I) 1 hrs Fri 11-12 HIT F32 **P. Morf**  
24.09. 08-12 HIT F12

**402-0922-00L Mentored Work Specialised Courses in Physics with an Educational Focus A** W 2 credits 4A  
Mentored Work Specialised Courses in the Respective Subject with an Educational Focus in Physics for TC and Teaching Diploma.

402-0922-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädag. Fokus Physik A für DZ und Lehrdiplom ■ <i>Permission from lecturers required for all students</i>	60s hrs	by appt.	G. Schiltz, A. Vaterlaus				
402-0923-00L	Mentored Work Specialised Courses in Physics with an Educational Focus B <i>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus in Physics for Teaching Diploma and for students upgrading TC to Teaching Diploma.</i>	W	2 credits	4A				
402-0923-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädagogischem Fokus Physik B Lehrdiplom ■ <i>Permission from lecturers required for all students</i>	60s hrs	by appt.	G. Schiltz, A. Vaterlaus				
402-0924-00L	Internship Physics Didactics <i>Internship Physics Didactics for Teaching Diploma with Physics as First Subject.</i>	W	4 credits	9P				
402-0924-00 P	Fachdidaktikpraktikum Physik ■ <i>Permission from lecturers required for all students</i> <i>Termine:</i> <i>Einführungsveranstaltung: 17.12., Raum nach Absprache</i> <i>Abschluss-Seminar: nach Absprache</i>	120s hrs	M. Mohr, A. Vaterlaus					
402-0263-00L	Astrophysics I	W	10 credits	3V+2U				
402-0263-00 V	Astrophysics I	3 hrs	Tue	14-16	HPV G4	S. Lilly		
402-0263-00 U	Astrophysics I	2 hrs	Wed	13-14	HPV G5	S. Lilly		
			Thu	08-10	HIT J51			
					HIT J52			
					HPL D34			
			Fri	14-16	HCP E47.1			
					HIT F32			
					HIT K52			
402-0255-00L	Introduction to Solid State Physics	W	10 credits	3V+2U				
402-0255-00 V	Einführung in die Festkörperphysik	3 hrs	Thu	14-16	HPH G3	C. Degen		
402-0255-00 U	Einführung in die Festkörperphysik <i>Die Übungen beginnen in der 2. Semesterwoche.</i>  <i>Mi 14-16 oder Do 8-10.</i>	2 hrs	Fri	13-14	HPH G3	C. Degen		
			Wed	14-16	HCI E2			
					HIT F31.2			
					HIT F32			
					HIT H51			
			Thu	08-10	HIT F31.2			
					HIT F32			
					HIT J53			
402-0505-00L	Physics in the Smartphone	W	6 credits	3G				
402-0505-00 G	Physics in the Smartphone <i>Does not take place this semester.</i>	3 hrs	M. Sigrist					
402-0247-00L	Electronics for Physicists I (Analogue) <i>Number of participants limited to 40.</i>	W	4 credits	2V+2P				
402-0247-00 V	Electronics for Physicists I (Analogue) <i>Fr 13:45-17:30 (Vorlesung und Praktikum)</i>	2 hrs	Fri	14-16	HPT C103	G. Bison, W. Erdmann		
402-0247-00 P	Electronics for Physicists I (Analogue) <i>Fr 13:45-17:30 (Vorlesung und Praktikum)</i>	2 hrs	Fri	16-18	HPT C103	G. Bison, W. Erdmann		

## ► Compulsory Elective Courses

Further course offerings from the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours				Lecturers
402-0737-00L	Energy and Sustainability in the 21st Century (Part I)	W	6 credits	2V+1U				
402-0737-00 V	Energy and Sustainability in the 21st Century (Part I)			2 hrs	Fri	09-11	HIT F32	P. Morf
402-0737-00 U	Energy and Sustainability in the 21st Century (Part I)			1 hrs	Fri	11-12 24.09.	HIT F32 08-12 HIT F12	P. Morf
252-0855-00L	Computer Science in Secondary School Mathematics	W	4 credits	3G				
252-0855-00 G	Informatik im gymnasialen Mathematikunterricht ■ <i>Permission from lecturers required for all students</i>			3 hrs	Wed	10-13	CAB G57	J. Hromkovic, G. Serafini
<i>see Compulsory Elective Courses Teaching Diploma</i>								
402-0247-00L	Electronics for Physicists I (Analogue) <i>Number of participants limited to 40.</i>	W	4 credits	2V+2P				
402-0247-00 V	Electronics for Physicists I (Analogue) <i>Fr 13:45-17:30 (Vorlesung und Praktikum)</i>			2 hrs	Fri	14-16	HPT C103	G. Bison, W. Erdmann
402-0247-00 P	Electronics for Physicists I (Analogue) <i>Fr 13:45-17:30 (Vorlesung und Praktikum)</i>			2 hrs	Fri	16-18	HPT C103	G. Bison, W. Erdmann

## Physics Teaching Diploma - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Physics Master

## ► Core Courses

One Core Course in Experimental or Theoretical Physics from Physics Bachelor is eligible; however, this Core Course from Physics Bachelor cannot be used to compensate for the mandatory Core Course in Experimental or Theoretical Physics.  
For the category assignment keep the choice "no category" and take contact with the Study Administration ([www.phys.ethz.ch/studies/study-administration.html](http://www.phys.ethz.ch/studies/study-administration.html)) after having received the credits.

## ►► Core Courses in Theoretical Physics

Number	Title	Type	ECTS	Hours				Lecturers
402-0861-00L	Statistical Physics	W	10 credits	4V+2U				
402-0861-00 V	Statistical Physics			4 hrs	Tue	14-16	HPV G5	M. Sigrist
					Wed	14-16	HPV G5	
402-0861-00 U	Statistical Physics			2 hrs	Tue	16-18	HCI J4	M. Sigrist
							HIT J53	
					Wed	12-14	HIT H42	
							HIT J51	
							HIT J52	
							HIT K51	
					Fri	16-18	HIT K51	
402-0843-00L	Quantum Field Theory I <i>Special Students UZH must book the module PHY551 directly at UZH.</i>	W	10 credits	4V+2U				
402-0843-00 V	Quantum Field Theory I <i>**together with University of Zurich**</i>			4 hrs	Mon	14-16	HPV G4	G. M. Graf
					Thu	10-12	HPV G5	
	<i>Lecture starts on 23 September 2021.</i>							
402-0843-00 U	Quantum Field Theory I <i>**together with University of Zurich**</i>			2 hrs	Thu	14-16	HCP E47.4	G. M. Graf
							HIL B21	
							HIL D10.2	
							HIT H42	
	<i>Thu 14-16 or Fri 10-12</i>				Fri	10-12	HIT J51	
	<i>Exercises start in the second week of the semester.</i>						HIT J53	
							HIT K52	
402-0830-00L	General Relativity <i>Special Students UZH must book the module PHY511 directly at UZH.</i>	W	10 credits	4V+2U				
402-0830-00 V	General Relativity <i>**together with University of Zurich**</i>			4 hrs	Tue	16-18	HPV G5	C. Anastasiou
					Thu	12-14	HPV G5	
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there."</i>							
402-0830-00 U	General Relativity <i>**together with University of Zurich**</i>			2 hrs	Thu	16-18	HIT F31.1	C. Anastasiou
							HIT F31.2	
							HIT J53	
							HIT K52	
					Fri	12-14	HCI D2	
							HCI D8	
							HIL F10.3	
							HIT J52	

## ►► Core Courses: Experimental Physics

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0257-00L</b>	<b>Advanced Solid State Physics</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>					
402-0257-00 V	Advanced Solid State Physics			3 hrs	Tue	12-13	HPV G5		<b>K. Povarov</b>
					Thu	14-16	HPV G5		
402-0257-00 U	Advanced Solid State Physics			2 hrs	Thu	08-10	HCP E47.2		<b>K. Povarov</b>
					Fri	14-16	HIT K52		
							HIT J51		
<b>402-0442-00L</b>	<b>Quantum Optics</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>					
402-0442-00 V	Quantum Optics			3 hrs	Wed	10-12	HPV G5		<b>T. Esslinger</b>
					Fri	09-10	HPV G5		
402-0442-00 U	Quantum Optics			2 hrs	Tue	10-12	HIT F32		<b>T. Esslinger</b>
							HIT H51		
							HIT J51		
					Thu	16-18	HCI D6		
							HCI D8		
							HCI F2		
							HIT H42		
<b>402-0402-00L</b>	<b>Ultrafast Laser Physics</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>					
402-0402-00 V	Ultrafast Laser Physics			3 hrs	Wed	13-14	HIT H51		<b>L. P. Gallmann, S. Johnson,</b>
					Thu	10-12	HIT H51		<b>U. Keller</b>
402-0402-00 U	Ultrafast Laser Physics			2 hrs	Wed	14-16	HIT K51		<b>L. P. Gallmann, S. Johnson,</b>
									<b>U. Keller</b>
<b>402-0891-00L</b>	<b>Phenomenology of Particle Physics I</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>					
402-0891-00 V	Phenomenology of Particle Physics I			3 hrs	Mon	12-14	HPV G5		<b>P. Crivelli, A. de Cosa</b>
					Tue	13-14	HPV G5		

402-0891-00 U	Phenomenology of Particle Physics I <i>Tue 14-16 or Wed 8-10</i>	2 hrs	Tue	14-16	HCP E47.1 HCP E47.2 HIT K51 HPT C103	P. Crivelli, A. de Cosa
			Wed	08-10		

## ► Electives

### ►► Electives: Physics and Mathematics

#### ►►► Selection: Solid State Physics

Number	Title	Type	ECTS	Hours			Lecturers
<b>402-0526-00L</b>	<b>Ultrafast Processes in Solids</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0526-00 V	Ultrafast Processes in Solids			2 hrs	Fri	10-12	HIT H51 <b>Y. M. Acremann</b>
402-0526-00 U	Ultrafast Processes in Solids			1 hrs	Fri	12-13	HIT H51 <b>Y. M. Acremann</b>
<b>402-0535-00L</b>	<b>Introduction to Magnetism</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>			
402-0535-00 G	Introduction to Magnetism			3 hrs	Mon	16-19	HIL E6 <b>A. Vindigni</b>
<b>402-0595-00L</b>	<b>Semiconductor Nanostructures</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0595-00 V	Semiconductor Nanostructures			2 hrs	Wed	12-14	HCI J4 <b>T. M. Ihn</b>
402-0595-00 U	Semiconductor Nanostructures <i>or by appointment</i>			1 hrs	Wed	14-15	HIT J51 HIT K52 <b>T. M. Ihn</b>
<b>402-0317-00L</b>	<b>Semiconductor Materials: Fundamentals and Fabrication</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0317-00 V	Semiconductor Materials: Fundamentals and Fabrication			2 hrs	Tue	14-16	HCI D2 <b>S. Schön, W. Wegscheider</b>
402-0317-00 U	Semiconductor Materials: Fundamentals and Fabrication			1 hrs	Tue	16-17	HCI D2 <b>S. Schön, W. Wegscheider</b>
<b>402-0447-00L</b>	<b>Quantum Science with Superconducting Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0447-00 V	Quantum Science with Superconducting Circuits			2 hrs	Fri	14-16	HCI J6 <b>C. Eichler</b>
402-0447-00 U	Quantum Science with Superconducting Circuits			1 hrs	Fri	16-17	HCP E47.1 HCP E47.2 HIL E5 <b>C. Eichler</b>
<b>402-0505-00L</b>	<b>Physics in the Smartphone</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>			
402-0505-00 G	Physics in the Smartphone <i>Does not take place this semester.</i>			3 hrs			<b>M. Sigrist</b>

#### ►►► Selection: Quantum Electronics

Number	Title	Type	ECTS	Hours			Lecturers
<b>402-0464-00L</b>	<b>Optical Properties of Semiconductors</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U</b>			
402-0464-00 V	Optical Properties of Semiconductors			2 hrs	Mon	12-14	HIT J53 <b>J. Faist, P. Anantha Murthy</b>
402-0464-00 U	Optical Properties of Semiconductors			2 hrs	Mon	14-16	HIT F31.2 <b>J. Faist, P. Anantha Murthy</b>
<b>402-0484-00L</b>	<b>Experimental and Theoretical Aspects of Quantum Gases</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0484-00 V	Experimental and Theoretical Aspects of Quantum Gases <i>Does not take place this semester.</i>			2 hrs			<b>T. Esslinger</b>
402-0484-00 U	Experimental and Theoretical Aspects of Quantum Gases <i>Does not take place this semester.</i>			1 hrs			<b>T. Esslinger</b>
<b>402-0444-00L</b>	<b>Advanced Quantum Optics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0444-00 V	Advanced Quantum Optics <i>Does not take place this semester.</i>			2 hrs			<b>A. Imamoglu</b>
402-0444-00 U	Advanced Quantum Optics <i>Does not take place this semester.</i>			1 hrs			<b>A. Imamoglu</b>
<b>402-0465-58L</b>	<b>Intersubband Optoelectronics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0465-58 V	Intersubband Optoelectronics <i>Does not take place this semester.</i>			2 hrs			<b>G. Scalari</b>
402-0465-58 U	Intersubband Optoelectronics <i>Does not take place this semester.</i>			1 hrs			<b>G. Scalari</b>

#### ►►► Selection: Particle Physics

Number	Title	Type	ECTS	Hours			Lecturers
<b>402-0715-00L</b>	<b>Low Energy Particle Physics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0715-00 V	Low Energy Particle Physics <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon	09-11	HIT F31.1 <b>A. Soter, P. A. Schmidt-Wellenburg</b>
402-0715-00 U	Low Energy Particle Physics <i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>			1 hrs	Mon	11-12	HIT F31.1 <b>A. Soter, P. A. Schmidt-Wellenburg</b>
<b>402-0767-00L</b>	<b>Neutrino Physics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0767-00 V	Neutrino Physics			2 hrs	Tue	14-16	HIL C10.2 <b>A. Rubbia, D. Sgalaberna</b>
402-0767-00 U	Neutrino Physics			1 hrs	Tue	16-17	HIT F31.1 <b>A. Rubbia, D. Sgalaberna</b>
<b>402-0725-00L</b>	<b>Experimental Methods and Instruments of Particle Physics</b> <i>Special Students UZH must book the module PHY461 directly at UZH.</i>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>			

402-0725-00 V	Experimental Methods and Instruments of Particle Physics <b>**together with University of Zurich**</b>		3 hrs	Wed Thu	14-16 13-14	UNI ZH. UNI ZH.	<b>U. Langenegger</b> , T. Schietinger, University lecturers
402-0725-00 U	Experimental Methods and Instruments of Particle Physics <b>**together with University of Zurich**</b>		1 hrs	Thu	14-15	UNI ZH.	<b>U. Langenegger</b> , T. Schietinger, University lecturers
<b>402-0777-00L</b>	<b>Particle Accelerator Physics and Modeling I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0777-00 V	Particle Accelerator Physics and Modeling I		2 hrs	Fri	10-12	HIT J52	<b>A. Adelmann</b>
402-0777-00 U	Particle Accelerator Physics and Modeling I		1 hrs	Fri	13-14	HIT J51	<b>A. Adelmann</b>
<b>402-0851-00L</b>	<b>QCD: Theory and Experiment</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>			
402-0851-00 G	QCD: Theory and Experiment <i>Does not take place this semester.</i> <b>**together with University of Zurich**</b>		40s hrs				
<i>Block course</i>							
<b>▶▶▶ Selection: Theoretical Physics</b>							
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>			<b>Lecturers</b>
<b>402-0461-00L</b>	<b>Quantum Information Theory</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U</b>			
402-0461-00 V	Quantum Information Theory		3 hrs	Wed Thu	10-12 14-15	HPV G4 HPV G4	<b>P. Kammerlander</b>
402-0461-00 U	Quantum Information Theory		1 hrs	Thu	15-16	HCI J4 HPV G4	<b>P. Kammerlander</b>
<b>402-0811-00L</b>	<b>Programming Techniques for Scientific Simulations I</b>	<b>W</b>	<b>5 credits</b>	<b>4G</b>			
402-0811-00 G	Programming Techniques for Scientific Simulations I		4 hrs	Thu	14-18	HCI J3	<b>R. Käppeli</b>
<b>402-0809-00L</b>	<b>Introduction to Computational Physics</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U</b>			
402-0809-00 V	Introduction to Computational Physics		2 hrs	Tue	10-12	HCI J7	<b>A. Adelmann</b>
402-0809-00 U	Introduction to Computational Physics		2 hrs	Tue	08-10	HCI J7	<b>A. Adelmann</b>
<b>402-0580-00L</b>	<b>Superconductivity</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0580-00 V	Superconductivity		2 hrs	Mon	14-16	HPV G5	<b>V. Geshkenbein</b>
402-0580-00 U	Superconductivity		1 hrs	Mon Wed	16-17 12-13	HIL F10.3 HIL F10.3	<b>V. Geshkenbein</b>
<b>402-0484-00L</b>	<b>Experimental and Theoretical Aspects of Quantum Gases</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0484-00 V	Experimental and Theoretical Aspects of Quantum Gases <i>Does not take place this semester.</i>		2 hrs				
402-0484-00 U	Experimental and Theoretical Aspects of Quantum Gases <i>Does not take place this semester.</i>		1 hrs				
<b>402-0833-00L</b>	<b>Particle Physics in the Early Universe</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0833-00 V	Particle Physics in the Early Universe <i>Does not take place this semester.</i>		2 hrs				
402-0833-00 U	Particle Physics in the Early Universe <i>Does not take place this semester.</i>		1 hrs				
<b>402-0897-00L</b>	<b>Introduction to String Theory</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0897-00 V	Introduction to String Theory		2 hrs	Tue	10-12	HPV G5	<b>J. Brödel</b>
402-0897-00 U	Introduction to String Theory		1 hrs	Wed	10-11	HCI J4 HPL D32	<b>J. Brödel</b>
<b>402-0469-67L</b>	<b>Parametric Phenomena</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>			
402-0469-67 G	Parametric Phenomena <i>Does not take place this semester.</i>		3 hrs				
<b>402-0845-80L</b>	<b>Scattering Amplitudes in Quantum Field Theories</b> <i>Special Students UZH must book the module PHY577 directly at UZH.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0845-80 V	Scattering Amplitudes in Quantum Field Theories <i>Does not take place this semester.</i> <b>**together with University of Zurich**</b>		2 hrs				
402-0845-80 U	Scattering Amplitudes in Quantum Field Theories <i>Does not take place this semester.</i> <b>**together with University of Zurich**</b>		1 hrs				
<b>402-0886-00L</b>	<b>Quantum Chromodynamics</b> <i>Special Students UZH must book the module PHY564 directly at UZH.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			
402-0886-00 V	Quantum Chromodynamics <b>**together with University of Zurich**</b> <i>Former "Introduction to Quantum Chromodynamics", from HS21 in the autumn semester.</i>		2 hrs	Mon	10-12	HCP E47.1	<b>T. K. Gehrman</b>
402-0886-00 U	Quantum Chromodynamics <b>**together with University of Zurich**</b> <i>Former "Introduction to Quantum Chromodynamics", from HS21 in the autumn semester.</i>		1 hrs	Mon	12-13	HCP E47.1	<b>T. K. Gehrman</b>
<b>402-0845-61L</b>	<b>Effective Field Theories for Particle Physics</b> <i>Special Students UZH must book the</i>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>			

402-0845-61 V	module PHY578 directly at UZH. Effective Field Theories for Particle Physics **together with University of Zurich**	2 hrs	Tue	14-16	HCI H8.1	P. Stoffer
402-0845-61 U	More information at: <a href="https://www.physik.uzh.ch/en/teaching/PHY578.html">https://www.physik.uzh.ch/en/teaching/PHY578.html</a> Effective Field Theories for Particle Physics **together with University of Zurich**	1 hrs	Tue	16-17	HCI H8.1 HIT K52	P. Stoffer
402-0490-00L	Advanced Methods in Quantum Many-Body Theory	W	8 credits	3V+1U		
402-0490-00 V	Advanced Methods in Quantum Many-Body Theory		3 hrs	Thu	10-13	HPL D32 E. Demler
402-0490-00 U	Advanced Methods in Quantum Many-Body Theory		1 hrs	Thu	13-14	HPL D32 E. Demler
▶▶▶ Selection: Astrophysics						
Number	Title	Type	ECTS	Hours		Lecturers
402-0713-00L	Astro-Particle Physics I	W	6 credits	2V+1U		
402-0713-00 V	Astro-Particle Physics I Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.		2 hrs	Thu	14-16	HIT F32 A. Biland
402-0713-00 U	Astro-Particle Physics I or by appointment		1 hrs	Thu	16-17	HIT F32 HIT H51 A. Biland
402-0393-00L	Theoretical Cosmology and Different Aspects of Gravity	W	8 credits	4V		
402-0393-00 V	Theoretical Cosmology and Different Aspects of Gravity Does not take place this semester.		4 hrs			L. Heisenberg
402-0352-00L	Astronomical Observations and Instrumentation	W	6 credits	2V+1U		
402-0352-00 V	Astronomical Observations and Instrumentation		2 hrs	Wed	12-14	HIT K52 H. M. Schmid, A. M. Glauser, L. Harra, V. J. Sterken
402-0352-00 U	Astronomical Observations and Instrumentation		1 hrs	Wed	15-16	HIT K52 H. M. Schmid, A. M. Glauser, L. Harra, V. J. Sterken
402-0368-11L	Earth - A (Unique?) Habitable Planet	W	6 credits	2V+1U		
402-0368-11 V	Earth - A (Unique?) Habitable Planet		2 hrs	Fri	10-12	HIL E9 S. P. Quanz
402-0368-11 U	Earth - A (Unique?) Habitable Planet		1 hrs	Fri	12-13	HIL E9 S. P. Quanz
402-0368-07L	Lecture Series: Space Research and Exploration	W	1 credit	2V		
402-0368-07 V	Lecture Series: Space Research and Exploration		2 hrs	Tue	12-14 21.09.	HG F7 HPT C103 S. P. Quanz
402-0355-00L	Planet Formation Number of participants limited to 20.  Deadline of waiting list expires on 04.10.2021.	W	6 credits	2V+1U		
402-0355-00 V	Planet Formation		2 hrs	Wed	09-11	HIT F31.2 J. Szulágyi
402-0355-00 U	Planet Formation		1 hrs	Wed	11-12	HIT F31.2 J. Szulágyi
402-0371-62L	Cosmological Probes	W	6 credits	2V+1U		
402-0371-62 V	Cosmological Probes		2 hrs	Thu	10-12	HIT J43.1 A. Refregier
402-0371-62 U	Cosmological Probes		1 hrs	Thu	12-13	HIT J43.1 A. Refregier
402-0363-00L	Effective Field Theory in Cosmology	W	6 credits	2V+1U		
402-0363-00 V	Effective Field Theory in Cosmology		2 hrs	Mon	14-16	HCI H2.1 L. Senatore
402-0363-00 U	Effective Field Theory in Cosmology		1 hrs	Mon	16-17	HIL E7 L. Senatore
▶▶▶ Selection: Further Electives						
Number	Title	Type	ECTS	Hours		Lecturers
402-0737-00L	Energy and Sustainability in the 21st Century (Part I)	W	6 credits	2V+1U		
402-0737-00 V	Energy and Sustainability in the 21st Century (Part I)		2 hrs	Fri	09-11	HIT F32 P. Morf
402-0737-00 U	Energy and Sustainability in the 21st Century (Part I)		1 hrs	Fri	11-12 24.09.	HIT F32 HIT F12 P. Morf
402-0247-00L	Electronics for Physicists I (Analogue) Number of participants limited to 40.	W	4 credits	2V+2P		
402-0247-00 V	Electronics for Physicists I (Analogue) Fr 13:45-17:30 (Vorlesung und Praktikum)		2 hrs	Fri	14-16	HPT C103 G. Bison, W. Erdmann
402-0247-00 P	Electronics for Physicists I (Analogue) Fr 13:45-17:30 (Vorlesung und Praktikum)		2 hrs	Fri	16-18	HPT C103 G. Bison, W. Erdmann
151-0409-00L	Multiphysics Modeling and Simulation	W	4 credits	2V+2U		
151-0409-00 V	Multiphysics Modeling and Simulation		2 hrs	Wed	12-14	LFV E41 C. I. Roman

### ▶▶▶ Selection: Neuroinformatics

Number	Title	Type	ECTS	Hours				Lecturers
227-1033-00L	<b>Neuromorphic Engineering I</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>  <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module INI404 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	W	6 credits	2V+3U				
227-1033-00 V	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich** The lecturers will communicate the exact lesson times of ONLINE courses.</i>			2 hrs	Mon	14-16	ON LINE	<b>T. Delbrück</b> , G. Indiveri, S.-C. Liu
227-1033-00 U	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich**</i>  <i>Dates by arrangement.</i>			3 hrs	by appt.			<b>T. Delbrück</b> , G. Indiveri, S.-C. Liu

227-1037-00L	<b>Introduction to Neuroinformatics</b>	W	6 credits	2V+1U+1A				
227-1037-00 V	Introduction to Neuroinformatics			2 hrs	Thu	08-10	NO C60	V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 U	Introduction to Neuroinformatics			1 hrs	Thu	10-11	NO C60	V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 A	Introduction to Neuroinformatics <i>Self-study, no fixed presence required.</i>			1 hrs				V. Mante

### ▶▶▶ Selection: Biophysics, Physical Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
551-1601-00L	<b>Biophysics of Biological Macromolecules</b> <i>The course will only take place with a minimum of 6 participants</i>	W	6 credits	2V+1U				
551-1601-00 V	Biophysics of Biological Macromolecules <i>Does not take place this semester.</i>			2 hrs				F. Allain, S. Jonas
551-1601-00 U	Biophysics of Biological Macromolecules <i>Does not take place this semester.</i>			1 hrs				F. Allain, S. Jonas

### ▶▶▶ Selection: Medical Physics

Number	Title	Type	ECTS	Hours				Lecturers
402-0341-00L	<b>Medical Physics I</b>	W	6 credits	2V+1U				
402-0341-00 V	Medical Physics I			2 hrs	Thu	16-18	HPT C103	P. Manser
402-0341-00 U	Medical Physics I			1 hrs	Thu	18-19	HPT C103	P. Manser
402-0674-00L	<b>Physics in Medical Research: From Atoms to Cells</b>	W	6 credits	2V+1U				
402-0674-00 V	Physics in Medical Research: From Atoms to Cells			2 hrs	Fri	14-16	HCI H8.1	B. K. R. Müller
402-0674-00 U	Physics in Medical Research: From Atoms to Cells			1 hrs	Fri	16-17	HCI H8.1	B. K. R. Müller

### ▶▶▶ Selection: Environmental Physics

Number	Title	Type	ECTS	Hours				Lecturers
701-1239-00L	<b>Aerosols I: Physical and Chemical Principles</b>	W	4 credits	2V+1U				
701-1239-00 V	Aerosols I: Physical and Chemical Principles			2 hrs	Mon	14-16	CAB G52	M. Gysel Beer, D. Bell, E. Weingartner
701-1239-00 U	Aerosols I: Physical and Chemical Principles			1 hrs	Mon	13-14	CAB G52	M. Gysel Beer, D. Bell, E. Weingartner
701-0475-00L	<b>Atmospheric Physics</b>	W	3 credits	2G				
701-0475-00 G	Atmosphärenphysik <i>Im Anschluss an die LV findet ein freiwilliges, einstündiges Tutorial im gleichen Raum (CHN F46) statt.</i>			2 hrs	Wed	10-12	CHN F46	U. Lohmann
701-1221-00L	<b>Dynamics of Large-Scale Atmospheric Flow</b>	W	4 credits	2V+1U				
701-1221-00 V	Dynamics of Large-Scale Atmospheric Flow			2 hrs	Wed	09-11	CHN E42	H. Wernli, L. Papritz



701-1221-00 U	Dynamics of Large-Scale Atmospheric Flow			1 hrs	Wed	11-12	CHN E42	H. Wernli, L. Papritz
<b>651-4053-05L</b>	<b>Boundary Layer Meteorology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
651-4053-05 G	Boundary Layer Meteorology			3 hrs	Fri	08-10 12-13	CAB G51 CAB G61	M. Rotach, P. Calanca

### ►►► Selection: Mathematics

Number	Title	Type	ECTS	Hours	Lecturers			
<b>401-3531-00L</b>	<b>Differential Geometry I</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				
401-3531-00 V	Differential Geometry I			4 hrs	Mon Wed	14-16 14-16	ML H44 HG E5	<b>J. Serra</b>
401-3531-00 U	Differential Geometry I <i>Groups are selected in myStudies. Thu 13-14 or Thu 16-17 or Fri 13-14</i>			1 hrs	Thu Fri	13-14 16-17 13-14	HG E22 IFW C31 HG F3	<b>J. Serra</b>
<b>401-3461-00L</b>	<b>Functional Analysis I</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				
401-3461-00 V	Functional Analysis I			4 hrs	Mon Thu	10-12 14-16	HG D7.1 HG G5	<b>J. Teichmann</b>
401-3461-00 U	Functional Analysis I <i>Groups are selected in myStudies.</i>			1 hrs	Mon	09-10	HG G26.1 HG G26.5 ML J34.1	<b>J. Teichmann</b>
<b>401-3601-00L</b>	<b>Probability Theory</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				
401-3601-00 V	Probability Theory			4 hrs	Tue Thu	10-12 10-12	HG D1.2 HG E3	<b>W. Werner</b>
401-3601-00 U	Probability Theory <i>Groups are selected in myStudies. Tue 14-15 or Tue 15-16 starting in the second week of the semester.</i>			1 hrs	Tue	14-15 15-16	HG F26.5 ML H41.1 HG F26.5 ML H41.1	<b>W. Werner</b>
<b>401-3621-00L</b>	<b>Fundamentals of Mathematical Statistics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>				
401-3621-00 V	Fundamentals of Mathematical Statistics			4 hrs	Tue Wed	08-10 10-12	HG E5 HG E7	<b>S. van de Geer</b>
401-3621-00 U	Fundamentals of Mathematical Statistics			1 hrs	Tue	12-13	HG D7.1 HG E7	<b>S. van de Geer</b>

### ►►► Selection: Electives at the University of Zurich

University of Zurich lecturers explicitly recommended the following courses also to physics students at ETH Zurich.  
Recognition of the corresponding external ECTS credits has to be granted by the Director of Studies. Submit your request to the Study Administration (www.phys.ethz.ch/studies/study-administration.html).

Number	Title	Type	ECTS	Hours	Lecturers			
<b>401-7851-00L</b>	<b>Theoretical Astrophysics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST512</i>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>				

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

401-7851-00 V	Theoretical Astrophysics (University of Zurich) **Course at University of Zurich**	4 hrs	Mon Tue 20.09.	10-12 10-12 10-12	UNI ZH. UNI ZH. UNI ZH.	University lecturers
401-7851-00 U	Theoretical Astrophysics (University of Zurich) **Course at University of Zurich**	2 hrs	Mon 20.09.	13-15 13-15	UNI ZH. UNI ZH.	University lecturers
<b>401-7855-00L</b>	<b>Computational Astrophysics (University of Zurich)</b> No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST245	<b>W</b>	<b>6 credits</b>	<b>2V</b>		
401-7855-00 V	Computational Astrophysics (University of Zurich) **Course at University of Zurich**	2 hrs	Tue	12-14	UNI ZH.	<b>L. M. Mayer</b>
<b>402-6394-00L</b>	<b>Advanced Topics of Theoretical Cosmology (University of Zurich)</b> No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST802	<b>W</b>	<b>4 credits</b>	<b>1V</b>		
402-6394-00 V	Advanced Topics of Theoretical Cosmology (University of Zurich) **Course at University of Zurich**	20s hrs				<b>J. Yoo</b>
Lectures for two weeks, 30.08 (Mon) until 10.09 (Fri), 10-12 o'clock.						

## ►► General Electives

Students may choose General Electives from the entire course programme of ETH Zurich - with the following restrictions: courses that belong to the first or second year of a Bachelor curriculum at ETH Zurich as well as courses from GESS "Science in Perspective" are not eligible here.  
The following courses are explicitly recommended to physics students by their lecturers. (Courses in this list may be assigned to the category "General Electives" directly in myStudies. For the category assignment of other eligible courses keep the choice "no category" and take contact with the Study Administration ([www.phys.ethz.ch/studies/study-administration.html](http://www.phys.ethz.ch/studies/study-administration.html)) after having received the credits.)

Number	Title	Type	ECTS	Hours	Lecturers	
<b>529-0433-01L</b>	<b>Advanced Physical Chemistry: Statistical Thermodynamics</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>		
529-0433-01 G	Advanced Physical Chemistry: Statistical Thermodynamics Vorlesung: Mo 8-10 Übungen Di 8-9 oder Di 10-11			3 hrs	Mon Tue	08-10 08-09
						HCI J4 HCI D4 HCI D6 HCI E2 HCI E8 HCI F2 HCI J4 HCI F2 HCI E8 HCI F2 HCI F8 HCP E47.1 HCP E47.3
<b>151-0163-00L</b>	<b>Nuclear Energy Conversion</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
151-0163-00 V	Nuclear Energy Conversion Does not take place this semester.			2 hrs		<b>A. Manera</b>
151-0163-00 U	Nuclear Energy Conversion Does not take place this semester. Andere Übungstermine können abgesprochen werden.			1 hrs		<b>A. Manera</b>
<b>151-0103-00L</b>	<b>Fluid Dynamics II</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>		
151-0103-00 V	Fluidodynamik II In der 1. und 2. Semesterwoche findet am Dienstag 11-12 h jeweils eine Vorlesung, anstelle von Übungen, statt (Ort: ETF C 1).			2 hrs	Mon 21.09. 28.09.	10-12 11-12 11-12
						HG E7 ETF C1 ETF C1
151-0103-00 U	Fluidodynamik II Groups are selected in myStudies. Die Übungen beginnen in der 3. Semesterwoche.			1 hrs	Tue	11-12
						CAB G61 HG D1.1 IFW A36
<b>151-0532-00L</b>	<b>Nonlinear Dynamics and Chaos I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>		
151-0532-00 V	Nonlinear Dynamics and Chaos I			2 hrs	Wed	10-12
151-0532-00 U	Nonlinear Dynamics and Chaos I			2 hrs	Tue	16-18
						LFW B1 ML F39
<b>151-0213-00L</b>	<b>Fluid Dynamics with the Lattice Boltzmann Method</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		

151-0213-00 G	Fluid Dynamics with the Lattice Boltzmann Method <i>This course will be taught in a hybrid of online and face-to-face classroom formats; students will be informed who can attend the class on campus or should join the live streaming class.</i>	3 hrs	Wed	10-13	IFW B42	I. Karlin
151-0105-00L	<b>Quantitative Flow Visualization</b>	W	4 credits	3G		
151-0105-00 G	Quantitative Flow Visualization <i>This course will be offered for the last time in Autumn Semester 2021.</i>	3 hrs	Tue	10-13	ML H41.1	T. Rösger
151-0911-00L	<b>Introduction to Plasmonics</b>	W	4 credits	2V+1U		
151-0911-00 V	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>	2 hrs				D. J. Norris
151-0911-00 U	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>	1 hrs				D. J. Norris
151-0107-20L	<b>High Performance Computing for Science and Engineering (HPCSE) I</b>	W	4 credits	4G		
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h Exercises: 14-16h</i>	4 hrs	Fri	12-14 14-16	ML H44 ML H44	P. Koumoutsakos, S. M. Martin
227-1047-00L	<b>Consciousness: From Philosophy to Neuroscience (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI410</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	3 credits	2V		
227-1047-00 V	Consciousness: From Philosophy to Neuroscience (University of Zurich) <i>**Course at University of Zurich**</i>	2 hrs	Thu	17-19	UNI ZH.	D. Kiper
151-0621-00L	<b>Microsystems I: Process Technology and Integration</b>	W	6 credits	3V+3U		
151-0621-00 V	Microsystems I: Process Technology and Integration <i>The lecture starts in the second week of the Semester.</i>	3 hrs	Thu	13-16	HG E5	C. Hierold, M. Haluska
151-0621-00 U	Microsystems I: Process Technology and Integration <i>The exercise starts in the third week of the Semester.</i>	3 hrs	Tue	16-19	HG E1.2	M. Haluska
227-0385-10L	<b>Biomedical Imaging</b>	W	6 credits	5G		
227-0385-10 G	Biomedical Imaging <i>**together with University of Zurich**</i>	5 hrs	Mon Tue	14-16 13-16	HG E19 HG E7	S. Kozerke, K. P. Prüssmann
227-0386-00L	<b>Biomedical Engineering</b>	W	4 credits	3G		
227-0386-00 G	Biomedical Engineering <i>**together with University of Zurich**</i>	3 hrs	Wed	08-10 10-11	ETF E1 ETF E1	J. Vörös, S. J. Ferguson, S. Kozerke, M. P. Wolf, M. Zenobi-Wong
227-0965-00L	<b>Micro and Nano-Tomography of Biological Tissues</b>	W	4 credits	3G		
227-0965-00 G	Micro and Nano-Tomography of Biological Tissues	3 hrs	Mon	09-12	ETZ E9	M. Stampanoni, F. Marone Welford
227-0157-00L	<b>Semiconductor Devices: Physical Bases and Simulation</b>	W	4 credits	3G		
227-0157-00 G	Semiconductor Devices: Physical Bases and Simulation <i>Falls alle Hörende es wünschen, kann die Vorlesung auch auf Deutsch gehalten werden.</i>	3 hrs	Mon	09-12	ETZ G91	A. Schenk, C. I. Roman
227-0663-00L	<b>Nano-Optics</b>	W	6 credits	2V+2U		
227-0663-00 V	Nano-Optics <i>Does not take place this semester.</i>	2 hrs				M. Frimmer
227-0663-00 U	Nano-Optics <i>Does not take place this semester.</i>	2 hrs				M. Frimmer
227-0301-00L	<b>Optical Communication Fundamentals</b>	W	6 credits	2V+1U+1P		
227-0301-00 V	Optical Communication Fundamentals	2 hrs	Tue	14-16	ETZ K91	J. Leuthold
227-0301-00 U	Optical Communication Fundamentals	1 hrs	Tue	16-17	ETZ K91	J. Leuthold
227-0301-00 P	Optical Communication Fundamentals	1 hrs	Tue	17-18	ETZ K91	J. Leuthold
227-0116-00L	<b>VLSI 1: HDL based design for FPGAs</b>	W	6 credits	5G		
227-0116-00 G	VLSI 1: HDL based design for FPGAs	5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1	F. K. Gürkaynak, L. Benini
227-0148-00L	<b>VLSI III: Test and Fabrication of VLSI Circuits</b>	W	6 credits	4G		
227-0148-00 G	VLSI III: Test and Fabrication of VLSI Circuits <i>Does not take place this semester. Will be offered in spring 2022 as "227-0148-00L VLSI4: Practical VLSI: measurement and testing"</i>	4 hrs				L. Benini

<b>151-0620-00L</b>	<b>Embedded MEMS Lab</b>	<b>W</b>	<b>5 credits</b>	<b>3P</b>						
151-0620-00 P	Embedded MEMS Lab - First part of the compulsory introductory lecture: Monday 27.09.2021 from 13:15h to 18h (venue: tbd) - Second part of the compulsory introductory lecture: Monday 04.10.2021 from 13:15h to 18h (venue: tbd) - Practical portion of the course in the cleanrooms of CLA: 7 consecutive Mondays from 13:00 (exact) to ~18:30 during the Semester. Starting days for groups are staggered. - Attendance is required at all meetings of the course.			45s hrs	Mon	13-14	ML J34.1 ML J34.3 ML J37.1	<b>C. Hierold</b> , S. Blunier, M. Haluska		
						13-17 27.09. 13-18 04.10. 13-18	CLA G2 ML H43 ML H43			
<b>529-0443-01L</b>	<b>Advanced Magnetic Resonance</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>						
529-0443-01 G	Advanced Magnetic Resonance			3 hrs	Wed	10-13	HCI J3	<b>G. Jeschke</b> , A. Barnes		
<b>327-2132-00L</b>	<b>Multifunctional Ferroic Materials: Growth and Characterisation</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>						
327-2132-00 G	Multifunctional Ferroic Materials: Growth and Characterization			2 hrs	Mon	14-16	HCI H8.1	<b>M. Trassin</b>		
<b>327-0703-00L</b>	<b>Electron Microscopy in Material Science</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>						
327-0703-00 V	Electron Microscopy in Material Science			2 hrs	Fri	08-10	HCI H2.1	<b>K. Kunze</b> , R. Erni, S. Gerstl, F. Gramm, A. Käch, F. Krumeich, M. Willinger		
327-0703-00 U	Electron Microscopy in Material Science			2 hrs	Fri	12-14	HCI H2.1	<b>K. Kunze</b> , R. Erni, S. Gerstl, F. Gramm, A. Käch, F. Krumeich, M. Willinger		
<b>327-0702-00L</b>	<b>EM-Practical Course in Materials Science</b>	<b>W</b>	<b>2 credits</b>	<b>4P</b>						
327-0702-00 P	EM-Practical in Materials Science Das Praktikum findet vom 10.-14. Januar 2022 ganztags in den Laborräumen des ScopeM (ETH Hönggerberg) statt.			60s hrs				<b>K. Kunze</b> , S. Gerstl, F. Gramm, F. Krumeich, J. Reuteler		
<b>327-2125-00L</b>	<b>Microscopy Training SEM I - Introduction to SEM</b> The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.  For PhD students, postdocs and others, a fee will be charged ( <a href="http://www.scopem.ethz.ch/education/MTP.html">http://www.scopem.ethz.ch/education/MTP.html</a> ).  All applicants must additionally register on this form: (link will follow) The selected applicants will be contacted and asked for confirmation a few weeks before the course date.	<b>W</b>	<b>2 credits</b>	<b>3P</b>						
327-2125-00 P	Microscopy Training SEM I - Introduction to SEM ■ This block course will take place during 5 full days (9am-5pm) on October 25.-29., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.  The repetition (if needed) of this course will take place on Jan 24.-28., 2022.			35s hrs	25.10.	09-12	HIT F11.1	<b>P. Zeng</b> , A. G. Bittermann, S. Gerstl, L. Grafulha Morales, K. Kunze, J. Reuteler		
					26.10.	09-12	HIT F11.1			
					27.10.	09-12	HIT F11.1			
					29.10.	13-16	HIT F11.1			
<b>327-2126-00L</b>	<b>Microscopy Training TEM I - Introduction to TEM</b> The number of participants is limited. In case of overbooking, the course will be repeated once. All registrations will be recorded on the waiting list.  For PhD students, postdocs and others, a fee will be charged ( <a href="http://www.scopem.ethz.ch/education/MTP.html">http://www.scopem.ethz.ch/education/MTP.html</a> ).  All applicants must additionally register on this form: (link will follow) The selected applicants will be contacted and asked for confirmation a few weeks before the course date.	<b>W</b>	<b>2 credits</b>	<b>3P</b>						
327-2126-00 P	Microscopy Training TEM I - Introduction to TEM This block course will take place during 5 full days (9am-5pm) on November 1.-5., 2021. Lectures will be held in the seminar room, practical exercises in rooms of ScopeM.  The repetition (if needed) of this course will take place from 29.11.-03.12.2021.			35s hrs	01.11.	09-12	HIT F11.1	<b>P. Zeng</b> , E. J. Barthazy Meier, A. G. Bittermann, F. Gramm, A. Sologubenko, M. Willinger		
					02.11.	09-12	HIT F11.1			
					03.11.	09-12	HIT F11.1			
					05.11.	13-16	HIT F11.1			
<b>363-0541-00L</b>	<b>Systems Dynamics and Complexity</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>						
363-0541-00 G	Systems Dynamics and Complexity Lecture: Thursday, 08-10 h Exercises: Tuesday, 12-13 h The lecture takes place in classroom, online via livestreaming or zoom and recorded.			3 hrs	Tue Thu	12-13 08-10	HG D1.2 HG D1.2	<b>F. Schweitzer</b>		

<b>363-1065-00L</b>	<b>Design Thinking: Human-Centred Solutions to Real World Challenges</b>	<b>W</b>	<b>5 credits</b>	<b>5G</b>						
363-1065-00 G	Design Thinking: Human-Centred Solutions to Real World Challenges <i>Does not take place this semester. From FS22 in the spring semester.</i>			5 hrs					S. Brusoni	
<b>227-0655-00L</b>	<b>Nonlinear Optics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>						
227-0655-00 V	Nonlinear Optics <i>Does not take place this semester.</i>			2 hrs					J. Leuthold	
227-0655-00 U	Nonlinear Optics <i>Does not take place this semester.</i>			2 hrs					J. Leuthold	
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>						
227-0423-00 V	Neural Network Theory			2 hrs	Tue	10-12	HG F5		H. Bölcskei	
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on: <a href="https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html">https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html</a>. The reserved room is meant for those students who want to follow the course from the campus.</i>			1 hrs	Tue	12-13	HG F5		H. Bölcskei	
<b>227-0653-00L</b>	<b>Electromagnetic Precision Measurements and Opto-Mechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>						
227-0653-00 V	Electromagnetic Precision Measurements and Opto-Mechanics <i>The course will take place online until further notice.</i>			2 hrs	Fri	09-11	ML H34.3		M. Frimmer	
227-0653-00 U	Electromagnetic Precision Measurements and Opto-Mechanics <i>The course will take place online until further notice.</i>			1 hrs	Fri	11-12	ML H34.3		M. Frimmer	
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>						
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	14-16	HG E5		G. Fourny	
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>			1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE		G. Fourny	
<b>227-0939-00L</b>	<b>Cell Biophysics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>						
227-0939-00 G	Cell Biophysics			4 hrs	Tue Thu	16-18 16-18	HG D7.2 ML F38		T. Zambelli	
<b>701-1253-00L</b>	<b>Analysis of Climate and Weather Data</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>						
701-1253-00 G	Analysis of Climate and Weather Data <i>Does not take place this semester.</i>			2 hrs					C. Frei	
<b>151-0209-00L</b>	<b>Renewable Energy Technologies</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>						
151-0209-00 G	Renewable Energy Technologies <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue	14-17	HG G5		A. Steinfeld, E. I. M. Casati	
<b>701-1257-00L</b>	<b>European Climate Change</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>						
701-1257-00 G	European Climate Change			2 hrs	Mon	10-12	LFO C13		C. Schär, J. Rajczak, S. C. Scherrer	
<b>363-0537-00L</b>	<b>Resource and Environmental Economics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>						
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Wed	10-12	HG G3		L. Bretschger	

## ► Proseminars and Semester Papers

To organise a semester project take contact with one of the instructors.

Not all lecturers are directly eligible in myStudies if "Professors" is the required type of lecturers. In such cases please take contact with the Study Administration ([www.phys.ethz.ch/studies/study-administration.html](http://www.phys.ethz.ch/studies/study-administration.html)).

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0210-MSL</b>	<b>Proseminar Theoretical Physics</b>	<b>W</b>	<b>8 credits</b>	<b>4S</b>					
	<i>The number of participants is limited.</i>								
402-0210-MS S	Proseminar Theoretical Physics (Physics Master / High-Energy Physics Master) ■ <i>Permission from lecturers required for all students First meeting will be communicated. During this meeting, the list of student participants will be finalised, topics and tutors will be assigned. Since Proseminar presentations during the course of the semester are often thematically linked, we suggest that all deregistrations from the module be done by the first three weeks of the semester. No shows after this will result in a no show grade.</i>			4 hrs	Mon	08-12	HIT F32 HIT J52	Supervisors	
<b>402-0217-MSL</b>	<b>Semester Project in Theoretical Physics</b>	<b>W</b>	<b>8 credits</b>	<b>15A</b>					

402-0217-MS A	Semester Project in Theoretical Physics ■ <i>Permission from lecturers required for all students</i>			210s hrs	by appt.				Supervisors
<b>402-0215-MSL</b>	<b>Experimental Semester Project in Physics</b>	<b>W</b>	<b>8 credits</b>	<b>15A</b>					
402-0215-MS A	Experimental Semester Project in Physics (Physics Master / High-Energy Physics Master) ■ <i>Permission from lecturers required for all students</i>			210s hrs	by appt.				Supervisors
<b>402-0740-00L</b>	<b>Experimental Foundations of Particle Physics</b>	<b>W</b>	<b>8 credits</b>	<b>3S</b>					
402-0740-00 S	Experimental Foundations of Particle Physics			3 hrs	Tue	09-12	HCI E2		<b>M. Backhaus, M. Donegà</b>
<b>402-0717-MSL</b>	<b>Particle Physics at CERN</b>	<b>W</b>	<b>8 credits</b>	<b>15P</b>					
402-0717-00 P	Particle Physics at CERN ■ <i>Permission from lecturers required for all students</i>			210s hrs	by appt.				<b>W. Lustermann</b>
<b>402-0719-MSL</b>	<b>Particle Physics at PSI (Paul Scherrer Institute)</b>	<b>W</b>	<b>8 credits</b>	<b>15P</b>					
402-0719-00 P	Particle Physics at PSI (Paul Scherrer Institute) ■ <i>Permission from lecturers required for all students</i> <i>Usually three weeks during summer semester break, depending on available PSI beam times. The exact dates are being fixed during FS.</i> <i>Please consult the lecturer.</i>			210s hrs					<b>A. Soter, A. S. Antognini</b>
<b>402-0340-MSL</b>	<b>Medical Physics</b>	<b>W</b>	<b>8 credits</b>	<b>15P</b>					
402-0340-00 P	Medizinische Physik ■ <i>Permission from lecturers required for all students</i>			210s hrs	by appt.				<b>A. J. Lomax, K. P. Prüssmann</b>

### ► GESS Science in Perspective

*see GESS Science in Perspective:  
Language Courses ETH/UZH*

*see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability*

*Recommended GESS Science in  
Perspective (Type B) for D-PHYS.*

### ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>402-2000-00L</b>	<b>Scientific Works in Physics</b> <i>Target audience: Master students who cannot document to have received an adequate training in working scientifically.</i>	<b>O</b>	<b>0 credits</b>		
	<i>Directive <a href="https://www.ethz.ch/content/dam/ethz/mon/docs/weisungssammlung/files-en/declaration-of-originality.pdf">https://www.ethz.ch/content/dam/ethz/mon/docs/weisungssammlung/files-en/declaration-of-originality.pdf</a></i>				
402-2000-00 V	Scientific Works in Physics <i>The lecture will be performed twice: on 28 October 2021 und 9 December 2021 from 16:45-18:30. Only one lecture has to be attended.</i>			2s hrs	<b>C. Eichler</b>
<b>402-0900-30L</b>	<b>Master's Thesis</b> <i>Only students who fulfil the following criteria are allowed to begin with their master's thesis: a. successful completion of the bachelor programme; b. fulfilling of any additional requirements necessary to gain admission to the master programme. c. have acquired at least 8 credits in the category Proseminars and Semester Papers.</i>	<b>O</b>	<b>30 credits</b>	<b>57D</b>	
	<i>Further information: <a href="http://www.phys.ethz.ch/phys/education/master/msc-theses">http://www.phys.ethz.ch/phys/education/master/msc-theses</a></i>				
402-0900-30 D	Master's Thesis ■			800s hrs	by appt. Supervisors

### ► Seminars, Colloquia, and Additional Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>402-0101-00L</b>	<b>The Zurich Physics Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>	
402-0101-00 K	The Zurich Physics Colloquium <i>**together with University of Zurich**</i>  <i>16:15-17:15 Uhr</i>			1 hrs	Wed 16-17 HPV G4 S. Huber, A. Refregier, University lecturers
<b>402-0800-00L</b>	<b>The Zurich Theoretical Physics Colloquium</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>	

402-0800-00 K	The Zurich Theoretical Physics Colloquium <b>**together with University of Zurich**</b> More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030258">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030258</a>  The Colloquium takes place on selected Mondays during the academic semester on the Irchel Campus of UZH or at ETH Hönggerberg Time: 16:45h	E-	0 credits	1 hrs	Mon	17-18	HIT H42 I16 G05	University lecturers
401-5330-00L	<b>Talks in Mathematical Physics</b>	E-	0 credits	1K				
401-5330-00 K	Talks in Mathematical Physics <b>**together with University of Zurich**</b>			1 hrs	Thu	15-17	HG G43	<b>P. E. Y. Bousseau, A. Cattaneo, G. Felder, M. Gaberdiel, G. M. Graf, T. H. Willwacher</b>
402-0501-00L	<b>Solid State Physics</b>	E-	0 credits	1S				
402-0501-00 S	Solid State Physics			1 hrs	Thu	18-19	HPF G6	<b>A. Zheludev, C. Degen, K. Ensslin, D. Pescia, M. Sigrist, A. Wallraff</b>
402-0551-00L	<b>Laser Seminar</b>	E-	0 credits	1S				
402-0551-00 S	Laser Seminar			1 hrs	Mon	18-19	HPF G6	<b>T. Esslinger, J. Faist, J. Home, U. Keller, F. Merkt, H. J. Wörner</b>
402-0600-00L	<b>Nuclear and Particle Physics with Applications</b>	E-	0 credits	2S				
402-0600-00 S	Nuclear and Particle Physics with Applications <i>Durchführung nach Vereinbarung</i>			2 hrs	Tue	18-20	HPK D24.2	<b>A. Rubbia, G. Dissertori, K. S. Kirch, R. Wallny</b>
402-0893-00L	<b>Particle Physics Seminar</b>	E-	0 credits	1S				
402-0893-00 S	Particle Physics Seminar <b>**together with University of Zurich**</b> More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030294">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030294</a>			1 hrs	Tue	11-13	UNI	<b>T. K. Gehrman</b>
402-0700-00L	<b>Seminar in Elementary Particle Physics</b> <i>Special Students UZH must book the modul PHY463 directly at UZH.</i>	E-	0 credits	1S				
402-0700-00 S	Seminar in Elementary Particle Physics <b>**together with University of Zurich**</b>  <i>gemäss Ankündigung auf <a href="https://www.psi.ch/en/ltp/thursday-colloquia">https://www.psi.ch/en/ltp/thursday-colloquia</a></i>			1 hrs				<b>M. Spira, University lecturers</b>
402-0746-00L	<b>Seminar: Particle and Astrophysics (Aktuelles aus der Teilchen- und Astrophysik)</b>	E-	0 credits	1S				
402-0746-00 S	Seminar: Particle and Astrophysics (Aktuelles aus der Teilchen- und Astrophysik) <b>**together with University of Zurich**</b> More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030253">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html?sap-language=DE&amp;sap-ui-language=DE#details/2021/003/SM/50030253</a>  <i>The course takes place at UZH Irchel Y35 F32</i>			1 hrs	Mon Tue	14-16 14-16	UNI ZH. UNI ZH.	University lecturers
402-0300-00L	<b>IPA Colloquium</b>	E-	0 credits	1S				
402-0300-00 S	IPA Colloquium			1 hrs	Tue/2w	16-17	HIT H42	<b>A. Biland, A. Refregier, H. M. Schmid, further lecturers</b>
402-0396-00L	<b>Recent Research Highlights in Astrophysics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST006</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	E-	0 credits	1S				
402-0396-00 S	Recent Research Highlights in Astrophysics (University of Zurich) <b>**Course at University of Zurich**</b>			1 hrs	Thu	16-17	UNI ZH.	University lecturers
402-0530-00L	<b>Mesososcopic Systems</b>	E-	0 credits	1S				
402-0530-00 S	Mesososcopic Systems			1 hrs	Fri	11-12	HPF E6	<b>T. M. Ihn</b>
402-0620-00L	<b>Current Topics in Accelerator Mass Spectrometry and Its Applications</b>	E-	0 credits	1S				
402-0620-00 S	Current Topics in Accelerator Mass Spectrometry and Its Applications			1 hrs	Wed	12-13	HPK D24.2	<b>M. Christl, S. Willett</b>
227-0980-00L	<b>Seminar on Biomedical Magnetic Resonance</b>	E-	0 credits	1S				

227-0980-00 S	Seminar on Biomedical Magnetic Resonance		1 hrs	Thu	12-13	ETZ E6	<b>K. P. Prüssmann</b> , S. Kozerke, M. Weiger Senften
<b>227-1043-00L</b>	<b>Neuroinformatics - Colloquia (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: INI701</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>E-</b>	<b>0 credits</b>				
227-1043-00 K	Neuroinformatics - Colloquia (University of Zurich) <b>**Course at University of Zurich**</b>  <i>Location: please see VVZ UZH</i>		1 hrs	Fri	16-17	UNI ZH.	<b>S.-C. Liu</b> , R. Hahnloser, V. Mante
<b>651-1581-00L</b>	<b>Seminar in Glaciology</b>	<b>E-</b>	<b>3 credits</b>				
651-1581-00 S	Seminar in Glaciology <i>Format and topics will be introduced in the first session on 22 September 2021. Attendance is required.</i>		2 hrs	Wed	16-18	HPK D3	<b>A. Bauder</b>
<b>402-0010-00L</b>	<b>Basics of Computing Environments for Scientists</b> <i>Enrollment is only possible under <a href="https://www.lehrbetrieb.ethz.ch/laborpraktika">https://www.lehrbetrieb.ethz.ch/laborpraktika</a></i> <i>No registration required via myStudies.</i>  <i>Introduction:</i> - IT at D-PHYS (Herzog): 29.9. 1300 - IT at D-PHYS 2. Termin (Herzog): 7.10. 1300  <i>Modules:</i> - Linux Basics I (Müller): 13.10. 1300 - Linux Basics II (Müller): 20.10. 1300 - Python Ecosystem I (Becker): 27.10. 1300 - Python Ecosystem II (Becker): 3.11. 1300 - System Aspects (Herzog): 10.11. 1300	<b>Z</b>	<b>0 credits</b>				
402-0010-00 V	Basics of Computing Environments for Scientists		2s hrs	29.09. 07.10.	13-14 13-14	HPV G4 HPV G4	

### ► Course Units for Additional Admission Requirements

*The courses below are only available for MSc students with additional admission requirements.*

Number	Title	Type	ECTS	Hours	Lecturers
<b>406-0204-AAL</b>	<b>Electrodynamics</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>7 credits</b>	<b>15R</b>	
406-0204-AA R	Electrodynamics <i>Self-study course. No presence required.</i>			210s hrs	<b>C. Anastasiou</b>
<b>401-2673-AAL</b>	<b>Numerical Methods for CSE</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>9 credits</b>	<b>19R</b>	
401-2673-AA R	Numerical Methods for CSE <i>Self-study course. No presence required. This course completely coincides with 401-2663-00 V Numerical Methods for CSE. All information published for that course also applies to this one. Participating students are requested to enrol in the course unit 401-2663-00L as well to ensure smooth flow of information.</i>			270s hrs	<b>R. Hiptmair</b>

### Physics Master - Key for Type

Dr	Suitable for doctorate	W	Eligible for credits
O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum



#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Quantitative Finance Master

see [www.msfinance.ch/index.html?portrait/Curriculum.html](http://www.msfinance.ch/index.html?portrait/Curriculum.html)

Students in the Joint Degree Master's Programme "Quantitative Finance" must book University of Zurich modules directly at the University of Zurich. Those modules are not listed here.

## ► Core Courses

### ►► Economic Theory for Finance

For possible (additional) course offerings see [www.msfinance.ch](http://www.msfinance.ch)

### ►► Mathematical Methods for Finance

For possible additional course offerings see [www.msfinance.ch](http://www.msfinance.ch)

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-3913-01L</b>	<b>Mathematical Foundations for Finance</b>	<b>W</b>	<b>4 credits</b>	<b>3V+2U</b>					
401-3913-01 V	Mathematical Foundations for Finance <i>**together with University of Zurich**</i>			3 hrs	Tue	08-10	HG G5		<b>B. Acciaio</b>
					Thu	13-14	HG G5		
401-3913-01 U	Mathematical Foundations for Finance Groups are selected in myStudies. <i>**together with University of Zurich**</i> Fri 8-10 or Fri 10-12			2 hrs	Fri	08-10	HG D7.1		<b>B. Acciaio</b>
						10-12	HG D3.2		
Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from Zentrum campus.									

## ► Elective Courses

### ►► Economic Theory for Finance

For possible additional course offerings see [www.msfinance.ch](http://www.msfinance.ch)

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-4633-00L</b>	<b>Data Analytics in Organisations and Business</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-4633-00 V	Data Analytics in Organisations and Business			2 hrs	Fri	14-16	HG G5		<b>I. Flückiger</b>
401-4633-00 U	Data Analytics in Organisations and Business			1 hrs	Fri/2w	16-18	HG G5		<b>I. Flückiger</b>
<b>363-1081-00L</b>	<b>Asset Liability Management and Treasury Risks</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
	<i>Number of participants limited to 40.</i>								
363-1081-00 V	Asset Liability Management and Treasury Risks Block course			28s hrs	24.09.	09-17	HG F26.1		<b>P. Mangold, M. Eichhorn</b>
					22.10.	09-17	HG F26.3		
							HG E33.3		
							HG E33.5		
							HG E33.3		
							HG E33.5		
					10.12.	09-17	HG E33.3		
							HG E33.5		

### ►► Mathematical Methods for Finance

For possible additional course offerings see [www.msfinance.ch](http://www.msfinance.ch)

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-3925-00L</b>	<b>Non-Life Insurance: Mathematics and Statistics</b>	<b>W</b>	<b>8 credits</b>	<b>4V+1U</b>					
401-3925-00 V	Non-Life Insurance: Mathematics and Statistics			4 hrs	Mon	16-18	HG D7.1		<b>M. V. Wüthrich</b>
					Tue	13-15	HG D7.1		
401-3925-00 U	Non-Life Insurance: Mathematics and Statistics			1 hrs	Tue	15-16	HG D7.1		<b>M. V. Wüthrich</b>
<b>401-4889-00L</b>	<b>Mathematical Finance</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>					
401-4889-00 V	Mathematical Finance			4 hrs	Tue	08-10	HG E1.1		<b>D. Possamaï</b>
					Thu	08-10	ML F36		
401-4889-00 U	Mathematical Finance			2 hrs	Fri	10-12	ML F38		<b>D. Possamaï</b>
<b>401-4657-00L</b>	<b>Numerical Analysis of Stochastic Ordinary Differential Equations</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					
	<i>Alternative course title: "Computational Methods for Quantitative Finance: Monte Carlo and Sampling Methods"</i>								
401-4657-00 V	Numerical Analysis of Stochastic ODEs (Comp. Meth. Quant. Fin.: Monte Carlo and Sampling Methods)			3 hrs	Mon	16-18	HG D1.2		<b>A. Stein</b>
					Wed	14-15	HG D5.2		
401-4657-00 U	Numerical Analysis of Stochastic ODEs (Comp. Meth. Quant. Fin.: Monte Carlo and Sampling Methods) Groups are selected in myStudies.			1 hrs	Wed	15-16	HG D5.2		<b>A. Stein</b>
							LFW C1		
<b>401-3929-00L</b>	<b>Financial Risk Management in Social and Pension Insurance</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3929-00 V	Financial Risk Management in Social and Pension Insurance			2 hrs	Wed	16-18	HG D7.2		<b>P. Blum</b>
<b>401-3922-00L</b>	<b>Life Insurance Mathematics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3922-00 V	Life Insurance Mathematics			2 hrs	Fri	16-18	HG E1.1		<b>M. Koller</b>
<b>401-3928-00L</b>	<b>Reinsurance Analytics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3928-00 V	Reinsurance Analytics			2 hrs	Tue	16-18	HG E1.1		<b>P. Antal, P. Arbenz</b>

## ► Master's Thesis

#### Quantitative Finance Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Quantum Engineering Master

## ► Core Courses

A minimum of 24 credits must be obtained from core courses during the MSc QE, course selection is subject to the tutor's agreement.

## ►► Quantum Technology Lab

This core course is a prerequisite for participation in the QuanTech Labs of the second and third semester.

Number	Title	Type	ECTS	Hours				Lecturers
227-1831-10L	Case Studies: Applications of Quantum Technology <i>Only for Quantum Engineering MSc</i>	W+	3 credits	6G				
227-1831-10 G	Case Studies: Applications of Quantum Technology <i>Permission from lecturers required for all students</i> <i>The first lecture (27.09.21) take place in HG E 3.</i>			90s hrs	Mon 27.09.	16-18 16-18	HG D1.1 HG E3	L. Novotny

## ►► Engineering Core Courses

These core courses target students with a physics background and all those who need additional engineering foundations.

Number	Title	Type	ECTS	Hours	Lecturers		
<b>227-0103-00L</b>	<b>Control Systems</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>			
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60
227-0103-00 U	Regelsysteme			2 hrs	Tue	10-12	CHN C14
					21.09.	12-14	CHN C14
<b>227-0116-00L</b>	<b>VLSI 1: HDL based design for FPGAs</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>			
227-0116-00 G	VLSI 1: HDL based design for FPGAs			5 hrs	Tue	08-10	ETF C1
					Wed	13-16	ETZ D61.1
							ETZ D61.2
							ETZ D96.1
<b>227-0166-00L</b>	<b>Analog Integrated Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>			
227-0166-00 V	Analog Integrated Circuits			2 hrs	Fri	10-12	ETZ E6
227-0166-00 U	Analog Integrated Circuits			2 hrs	Fri	14-16	ETZ E6
	<i>Some of the exercise lessons will take place in computer room</i>						
	<i>ETZ D61.1.</i>						
	<i>To be announced during the course lessons.</i>						
<b>227-0301-00L</b>	<b>Optical Communication Fundamentals</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1P</b>			
227-0301-00 V	Optical Communication Fundamentals			2 hrs	Tue	14-16	ETZ K91
227-0301-00 U	Optical Communication Fundamentals			1 hrs	Tue	16-17	ETZ K91
227-0301-00 P	Optical Communication Fundamentals			1 hrs	Tue	17-18	ETZ K91
<b>227-0417-00L</b>	<b>Information Theory I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0417-00 G	Information Theory I			4 hrs	Wed	14-18	ETF C1

## ►► Physics Core Courses

These core courses target students with an engineering background and all those who need additional physics foundations.

Number	Title	Type	ECTS	Hours	Lecturers		
<b>402-0205-00L</b>	<b>Quantum Mechanics I</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>			
402-0205-00 V	Quantenmechanik I			3 hrs	Tue	10-12	HPV G4
					Thu	12-13	HPV G4
402-0205-00 U	Quantenmechanik I			2 hrs	Thu	10-12	HCI H8.1
	<i>Do 10-12 oder Do 16-18</i>						HIT F31.2
							HIT K52
							HPK D24.2
						16-18	HIL B21
							HIL E10.1
							HIT K51
							HPK D24.2
<b>402-0209-00L</b>	<b>Quantum Physics for Non-Physicists</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>			
402-0209-00 V	Quantum Physics for Non-Physicists			3 hrs	Tue	10-12	ML H44
					Thu	12-13	ML F36
402-0209-00 U	Quantum Physics for Non-Physicists			2 hrs	Thu	10-12	ML F36
<b>402-0255-00L</b>	<b>Introduction to Solid State Physics</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>			
402-0255-00 V	Einführung in die Festkörperphysik			3 hrs	Thu	14-16	HPH G3
					Fri	13-14	HPH G3
402-0255-00 U	Einführung in die Festkörperphysik			2 hrs	Wed	14-16	HCI E2
	<i>Die Übungen beginnen in der 2. Semesterwoche.</i>						HIT F31.2
	<i>Mi 14-16 oder Do 8-10.</i>						HIT F32
							HIT H51
					Thu	08-10	HIT F31.2
							HIT F32
							HIT J53
<b>402-0442-00L</b>	<b>Quantum Optics</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>			
402-0442-00 V	Quantum Optics			3 hrs	Wed	10-12	HPV G5
					Fri	09-10	HPV G5

402-0442-00 U	Quantum Optics			2 hrs	Tue	10-12	HIT F32 HIT H51 HCI J51 HCI D6 HCI D8 HCI F2 HIT H42	<b>T. Esslinger</b>
					Thu	16-18		
<b>402-0861-00L</b>	<b>Statistical Physics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>				
402-0861-00 V	Statistical Physics			4 hrs	Tue	14-16	HPV G5	<b>M. Sigrist</b>
					Wed	14-16	HPV G5	
402-0861-00 U	Statistical Physics			2 hrs	Tue	16-18	HCI J4	<b>M. Sigrist</b>
					Wed	12-14	HIT J53 HIT H42 HIT J51 HIT J52 HIT K51 HIT K51	
					Fri	16-18		
<b>402-0461-00L</b>	<b>Quantum Information Theory</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U</b>				
402-0461-00 V	Quantum Information Theory			3 hrs	Wed	10-12	HPV G4	<b>P. Kammerlander</b>
					Thu	14-15	HPV G4	
402-0461-00 U	Quantum Information Theory			1 hrs	Thu	15-16	HCI J4 HPV G4	<b>P. Kammerlander</b>

## ► Electives

*This is a selection of courses particularly suitable for the MSc QE. In agreement with the tutor, students may choose other courses from the ETH course catalogue.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>227-0101-00L</b>	<b>Discrete-Time and Statistical Signal Processing</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0101-00 G	Discrete-Time and Statistical Signal Processing			4 hrs	Tue	14-18	HG F3		<b>H.-A. Loeliger</b>
<b>227-0145-00L</b>	<b>Solid State Electronics and Optics</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0145-00 G	Solid State Electronics and Optics			4 hrs	Mon	14-16	ML F38		<b>N. Yazdani, V. Wood</b>
					Thu	14-16	LFW C4		
<b>227-0146-00L</b>	<b>Analog-to-Digital Converters</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0146-00 V	Analog-to-Digital Converters			2 hrs					
	<i>Does not take place this semester.</i>								
227-0146-00 U	Analog-to-Digital Converters			2 hrs					
	<i>Does not take place this semester.</i>								
<b>227-0157-00L</b>	<b>Semiconductor Devices: Physical Bases and Simulation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
227-0157-00 G	Semiconductor Devices: Physical Bases and Simulation			3 hrs	Mon	09-12	ETZ G91		<b>A. Schenk, C. I. Roman</b>
	<i>Falls alle Hörende es wünschen, kann die Vorlesung auch auf Deutsch gehalten werden.</i>								
<b>227-0166-00L</b>	<b>Analog Integrated Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0166-00 V	Analog Integrated Circuits			2 hrs	Fri	10-12	ETZ E6		<b>T. Jang</b>
227-0166-00 U	Analog Integrated Circuits			2 hrs	Fri	14-16	ETZ E6		<b>T. Jang</b>
	<i>Some of the exercise lessons will take place in computer room ETZ D61.1.</i>								
	<i>To be announced during the course lessons.</i>								
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>					
227-0225-00 G	Linear System Theory			5 hrs	Mon	09-12	IFW A36		<b>A. Iannelli</b>
					Wed	10-12	ETZ E6		
					22.09.	10-12	HG D1.1		
<b>227-0311-00L</b>	<b>Qubits, Electrons, Photons</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>					
227-0311-00 V	Qubits, Electrons, Photons			3 hrs	Thu	08-10	CHN F42		<b>T. Zambelli</b>
					Fri	13-14	ETZ E9		
227-0311-00 U	Qubits, Electrons, Photons			2 hrs	Wed	10-12	HG D3.2		<b>T. Zambelli</b>
<b>227-0427-00L</b>	<b>Signal Analysis, Models, and Machine Learning</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
	<i>This course was replaced by "Introduction to Estimation and Machine Learning" and "Advanced Signal Analysis, Modeling, and Machine Learning".</i>								
227-0427-00 G	Signal Analysis, Models, and Machine Learning			4 hrs					<b>H.-A. Loeliger</b>
	<i>Does not take place this semester.</i>								
<b>227-0468-00L</b>	<b>Analog Signal Processing and Filtering</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
	<i>Suitable for Master Students as well as Doctoral Students.</i>								
227-0468-00 V	Analog Signal Processing and Filtering			2 hrs	Wed	08-10	CHN E46		<b>H. Schmid</b>
227-0468-00 U	Analog Signal Processing and Filtering			2 hrs	Wed	10-12	CHN E46		<b>H. Schmid</b>
<b>227-0653-00L</b>	<b>Electromagnetic Precision Measurements and Opto-Mechanics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
227-0653-00 V	Electromagnetic Precision Measurements and Opto-Mechanics			2 hrs	Fri	09-11	ML H34.3		<b>M. Frimmer</b>
	<i>The course will take place online until further notice.</i>								
227-0653-00 U	Electromagnetic Precision Measurements and Opto-Mechanics			1 hrs	Fri	11-12	ML H34.3		<b>M. Frimmer</b>
	<i>The course will take place online until further notice.</i>								

<b>402-0465-58L</b>	<b>Intersubband Optoelectronics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0465-58 V	Intersubband Optoelectronics <i>Does not take place this semester.</i>			2 hrs					<b>G. Scalari</b>
402-0465-58 U	Intersubband Optoelectronics <i>Does not take place this semester.</i>			1 hrs					<b>G. Scalari</b>
<b>227-0655-00L</b>	<b>Nonlinear Optics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0655-00 V	Nonlinear Optics <i>Does not take place this semester.</i>			2 hrs					<b>J. Leuthold</b>
227-0655-00 U	Nonlinear Optics <i>Does not take place this semester.</i>			2 hrs					<b>J. Leuthold</b>
<b>227-0663-00L</b>	<b>Nano-Optics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
227-0663-00 V	Nano-Optics <i>Does not take place this semester.</i>			2 hrs					<b>M. Frimmer</b>
227-0663-00 U	Nano-Optics <i>Does not take place this semester.</i>			2 hrs					<b>M. Frimmer</b>
<b>151-0563-01L</b>	<b>Dynamic Programming and Optimal Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester.</i> <i>Online lecture: This lecture will primarily take place online.</i> <i>Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG F1		<b>R. D'Andrea</b>
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>			1 hrs	Wed	16-17	CAB G51 HG F1 ML E12		<b>R. D'Andrea</b>
					29.09.	16-17			
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>					
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3</i> <i>Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu	15-16	ETA F5 ETF E1 HG F1 HG F3		<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed	14-16	CAB G61 CAB G61 ML F34 CAB G61		<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs	Thu Fri	16-18 14-16			<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>252-0836-00L</b>	<b>Computer Science II</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
252-0836-00 V	Informatik II			2 hrs	Thu	10-12	HG E7		<b>M. Schwerhoff,</b> F. O. Friedrich Wicker
252-0836-00 U	Informatik II			2 hrs	Fri	16-18	CHN D42 CHN D44 CHN D46 CHN D48 LFW B3 LFW C1 LFW C11 LFW E13		<b>M. Schwerhoff,</b> F. O. Friedrich Wicker
<b>402-0257-00L</b>	<b>Advanced Solid State Physics</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>					
402-0257-00 V	Advanced Solid State Physics			3 hrs	Tue Thu	12-13 14-16	HPV G5 HPV G5		<b>K. Povarov</b>
402-0257-00 U	Advanced Solid State Physics			2 hrs	Thu Fri	08-10 14-16	HCP E47.2 HIT K52 HIT J51		<b>K. Povarov</b>
<b>402-0317-00L</b>	<b>Semiconductor Materials: Fundamentals and Fabrication</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0317-00 V	Semiconductor Materials: Fundamentals and Fabrication			2 hrs	Tue	14-16	HCI D2		<b>S. Schön, W. Wegscheider</b>
402-0317-00 U	Semiconductor Materials: Fundamentals and Fabrication			1 hrs	Tue	16-17	HCI D2		<b>S. Schön, W. Wegscheider</b>
<b>402-0402-00L</b>	<b>Ultrafast Laser Physics</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>					
402-0402-00 V	Ultrafast Laser Physics			3 hrs	Wed Thu	13-14 10-12	HIT H51 HIT H51		<b>L. P. Gallmann, S. Johnson,</b> U. Keller
402-0402-00 U	Ultrafast Laser Physics			2 hrs	Wed	14-16	HIT K51		<b>L. P. Gallmann, S. Johnson,</b> U. Keller
<b>402-0444-00L</b>	<b>Advanced Quantum Optics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0444-00 V	Advanced Quantum Optics <i>Does not take place this semester.</i>			2 hrs					<b>A. Imamoglu</b>
402-0444-00 U	Advanced Quantum Optics <i>Does not take place this semester.</i>			1 hrs					<b>A. Imamoglu</b>
<b>402-0447-00L</b>	<b>Quantum Science with Superconducting W Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0447-00 V	Quantum Science with Superconducting Circuits			2 hrs	Fri	14-16	HCI J6		<b>C. Eichler</b>
402-0447-00 U	Quantum Science with Superconducting Circuits			1 hrs	Fri	16-17	HCP E47.1 HCP E47.2 HIL E5		<b>C. Eichler</b>
<b>402-0464-00L</b>	<b>Optical Properties of Semiconductors</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U</b>					
402-0464-00 V	Optical Properties of Semiconductors			2 hrs	Mon	12-14	HIT J53		<b>J. Faist, P. Anantha Murthy</b>
402-0464-00 U	Optical Properties of Semiconductors			2 hrs	Mon	14-16	HIT F31.2		<b>J. Faist, P. Anantha Murthy</b>

<b>402-0484-00L</b>	<b>Experimental and Theoretical Aspects of W Quantum Gases</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0484-00 V	Experimental and Theoretical Aspects of Quantum Gases <i>Does not take place this semester.</i>			2 hrs					<b>T. Esslinger</b>
402-0484-00 U	Experimental and Theoretical Aspects of Quantum Gases <i>Does not take place this semester.</i>			1 hrs					<b>T. Esslinger</b>
<b>402-0535-00L</b>	<b>Introduction to Magnetism</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
402-0535-00 G	Introduction to Magnetism			3 hrs	Mon	16-19	HIL E6		<b>A. Vindigni</b>
<b>402-0595-00L</b>	<b>Semiconductor Nanostructures</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0595-00 V	Semiconductor Nanostructures			2 hrs	Wed	12-14	HCI J4		<b>T. M. Ihn</b>
402-0595-00 U	Semiconductor Nanostructures <i>or by appointment</i>			1 hrs	Wed	14-15	HIT J51 HIT K52		<b>T. M. Ihn</b>
<b>402-0469-67L</b>	<b>Parametric Phenomena</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
402-0469-67 G	Parametric Phenomena <i>Does not take place this semester.</i>			3 hrs					

### ► Semester Project

Number	Title	Type	ECTS	Hours	Lecturers
<b>227-1871-00L</b>	<b>Semester Project</b> <i>Registration in myStudies required!</i> <i>Supervisor must be a professor at D-ITET or D-PHYS, see <a href="http://master-qe.ethz.ch/education/semester-project.html">http://master-qe.ethz.ch/education/semester-project.html</a></i>	<b>O</b>	<b>12 credits</b>	<b>20A</b>	
227-1871-00 A	Semester Project ■ <i>Permission from lecturers required for all students</i>			280s hrs by appt.	Supervisors

### ► Internship

Number	Title	Type	ECTS	Hours	Lecturers
<b>227-1873-00L</b>	<b>Internship in Industry</b> <i>Only for Quantum Engineering MSc.</i>	<b>O</b>	<b>12 credits</b>		
227-1873-00 P	Internship in Industry ■				external organisers
<b>227-1873-10L</b>	<b>QuanTech Workshops</b> <i>Only for Quantum Engineering MSc.</i>	<b>W</b>	<b>12 credits</b>		
227-1873-10 P	QuanTech Workshops				<b>G. Raino, M. Frimmer</b>

### ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>227-1800-00L</b>	<b>Master's Thesis</b> <i>Admission only if ALL of the following apply:</i> <i>a) bachelor program successfully completed;</i> <i>b) acquired (if applicable) all credits from additional requirements for admission to master program;</i> <i>c) successfully completed the semester project.</i>  <i>Note: the conditions above are not applicable to incoming exchange students.</i>  <i>Registration in mystudies required!</i> <i>Supervisor must be a professor at D-ITET or D-PHYS, see <a href="http://master-qe.ethz.ch/education/master-project.html">http://master-qe.ethz.ch/education/master-project.html</a>.</i>	<b>O</b>	<b>30 credits</b>	<b>68D</b>	
227-1800-00 D	Master's Thesis ■			950s hrs by appt.	Supervisors

### ► GESS Science in Perspective

<i>see Science in Perspective: Language Courses ETH/UZH</i>
<i>see Science in Perspective: Type A: Enhancement of Reflection Capability</i>
<i>Recommended Science in Perspective (Type B) for D-ITET</i>

### Quantum Engineering Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.



# Geospatial Engineering Bachelor

## ► Basic Courses

### ►► First Year Examinations

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0241-00L</b>	<b>Analysis I</b>	<b>O</b>	<b>7 credits</b>	<b>5V+2U</b>				
401-0241-00 V	Analysis I			5 hrs	Mon	08-10	ETF C1	<b>M. Akveld</b>
					Wed	08-10	HPH G2	
					Thu/2w	08-10	ETF C1	
401-0241-00 U	Analysis I <i>Groups are selected in myStudies. Do 10-12 (ausser für Studiengang Umweltingenieurwissenschaften) oder Do 14-16 oder Do 16-18 gemäss Gruppeneinteilung (Übungen 252-0845-00 U Informatik I entsprechend umgekehrt Do 10-12 oder Do 14-16 oder Do 16-18). Zusätzlich wird ab der zweiten Semesterwoche ein StudyCenter gemeinsam für die Analysis I- und die Lineare Algebra-Vorlesung angeboten. Das StudyCenter findet montags von 18-20 Uhr sowie mittwochs von 16-18 Uhr statt. Infos zu den Räumen finden Sie auf der Moodle-Seite der Vorlesung.</i>			2 hrs	Thu	10-12	CHN D48 LFW E13 ML J34.3 CHN D48 LFW C1 LFW E13 ML F40 ML H41.1 LFW C1 ML H41.1	<b>M. Akveld</b>
						14-16		
						16-18		
<b>401-0141-00L</b>	<b>Linear Algebra</b>	<b>O</b>	<b>5 credits</b>	<b>3V+1U</b>				
401-0141-00 V	Lineare Algebra			3 hrs	Wed	10-12	HPH G2	<b>M. Akka Ginosar</b>
					Thu/2w	08-10	ETF C1	
401-0141-00 U	Lineare Algebra <i>Groups are selected in myStudies. Übungen Do 12-13 oder Do 13-14 gemäss Gruppeneinteilung. Zusätzlich wird ab der zweiten Semesterwoche ein StudyCenter gemeinsam für die Analysis I- und die Lineare Algebra-Vorlesung angeboten. Das StudyCenter findet montags von 18-20 Uhr sowie mittwochs von 16-18 Uhr statt. Infos zu den Räumen finden Sie auf der Moodle-Seite der Vorlesung.</i>			1 hrs	Thu	12-13	CHN D42 CHN D48 HG E33.3 LFW C1 LFW E13 CHN D42 CHN D48 HG E33.3 LFW C1 LFW E13	<b>M. Akka Ginosar</b>
						13-14		
<b>252-0845-00L</b>	<b>Computer Science I</b>	<b>O</b>	<b>5 credits</b>	<b>2V+2U</b>				
252-0845-00 V	Informatik I			2 hrs	Mon	12-14	HG F1	<b>C. Cotrini Jimenez, R. Sasse</b>
252-0845-00 U	Informatik I <i>Groups are selected in myStudies.</i>			2 hrs	Thu	14-16	ETZ J91 HG E33.1 IFW C33 LFW C5 ON LINE CHN D46 ETZ G91 ETZ J91 HG E33.1 ON LINE	<b>C. Cotrini Jimenez, R. Sasse</b>
						16-18		
<b>103-0313-00L</b>	<b>Spatial Planning and Landscape Development</b>	<b>O</b>	<b>5 credits</b>	<b>4G</b>				
103-0313-00 G	Raum- und Landschaftsentwicklung GZ			4 hrs	Mon Fri	16-18 14-16	HCI J3 HIL E8	<b>A. Grêt-Regamey, K. Hollenstein, J. Van Wezemael</b>
<b>103-0214-00L</b>	<b>Cartography Fundamentals</b>	<b>O</b>	<b>5 credits</b>	<b>4G</b>				
103-0214-00 G	Kartografie GZ			4 hrs	Tue	14-18	HIL E7	<b>L. Hurni</b>
<b>103-0116-00L</b>	<b>Ecology and Soil Science</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
103-0116-00 G	Ökologie und Bodenkunde			2 hrs	Tue	10-12	HCP E47.3 HCP E47.4	<b>S. Tobias</b>

### ►► Additional Basic Courses

*No offer in Autumn Semester.*

## ► Compulsory Courses

### ►► Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0243-00L</b>	<b>Analysis III</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
401-0243-00 V	Analysis III			2 hrs	Tue	10-12	HPH G2	<b>M. Akka Ginosar</b>
401-0243-00 U	Analysis III <i>Groups are selected in myStudies. Mi 9-10 für Studiengang Raumbezogene Ingenieurwissenschaften. Fr 12-13 oder Fr 13-14 für Studiengang Bauingenieurwissenschaften gemäss Gruppeneinteilung.  Zusätzlich wird das StudyCenter angeboten: weitere Angaben dazu folgen (ab der zweiten Semesterwoche)</i>			1 hrs	Wed Fri	09-10 12-13 13-14	NO C6 HIT F31.2 HIT H42 HIT F31.2 HIT F32 HIT H42	<b>M. Akka Ginosar</b>
<b>103-0233-10L</b>	<b>Fundamentals of GIS</b>	<b>O</b>	<b>6 credits</b>	<b>5G</b>				

103-0233-10 G	GIS GZ <i>Vorlesung: Mo 10-12</i> <i>Übungen: Do 8-11</i>			5 hrs	Mon Thu 22.12. 23.12.	10-12 08-11 15-18 08-12	HIL D53 HIL E15.2 HIT E51 HIT E51	<b>W. Kuhn</b>
<b>103-0187-02L</b>	<b>Satellite Geodesy</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>				
103-0187-02 G	Satellitengeodäsie			3 hrs	Tue	13-16	HIL D53	<b>M. Rothacher</b>
<b>102-0675-00L</b>	<b>Earth Observation</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>				
102-0675-00 G	Erdbeobachtung			3 hrs	Thu	13-16 14-15	HIL E8 HIL E15.2	<b>I. Hajnsek, E. Baltsavias</b>
<b>351-1158-00L</b>	<b>Principles of Economics</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
351-1158-00 G	Ökonomie <i>In classroom, online via livestreaming or zoom and recorded (Einführungsvorlesung 22.9. sowie Gastvorlesung 10.11.).</i> <i>In classroom, online via livestreaming or zoom, not recorded (4 groups); 6 Präsenzveranstaltungen.</i> <i>Online via livestreaming or zoom and recorded (1 group only zoom, this will be recorded).</i>			2 hrs	Wed	10-12	HG E41 LEE C104 LEE C114 LEE D101 LEE D105 ML D28 ML E12	<b>U. Renold, T. Bolli, P. McDonald, M. E. Oswald-Egg, F. Pusterla</b>
<b>851-0703-00L</b>	<b>Introduction to Law</b> <i>Students who have attended or will attend the lecture "Introduction to Law for Civil Engineering and Architecture " (851-0703-03L) or " Introduction to Law" (851-0708-00L), cannot register for this course unit.</i>  <i>Particularly suitable for students of D-ARCH, D-MAVT, D-MATL</i>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
851-0703-00 V	Grundzüge des Rechts			2 hrs	Mon	14-16	HG E1.2	<b>O. Streiff Gnöppf</b>

## ►► Examination block 2

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0043-00L</b>	<b>Physics I</b>	<b>O</b>	<b>4 credits</b>	<b>3V+1U</b>					
402-0043-00 V	Physics I (Physik I)			3 hrs	Tue Thu	16-17 16-18	HPH G2 HPH G2		<b>J. Home</b>
402-0043-00 U	Physik I <i>Di 17-18 für Studiengang Rechnergestützte Wissenschaften.</i> <i>Mi 9-10 (oder Di 17-18 als Ausweichtermin) für Studiengänge Chemie bzw. Chemieingenieurwissenschaften sowie Interdisziplinäre Naturwissenschaften.</i> <i>Mi 12-13 für Studiengang Raumbezogene Ingenieurwissenschaften.</i> <i>Do 10-11 für Studiengang Biochemie.</i>			1 hrs	Tue	17-18	HCI D2 HIT F31.1 HIT H51 HIT J51 CAB G52 HG E21 HG E22 HG E33.5 HG G26.3 ML H41.1 ML J34.1 ML J34.3 HG D3.2 HCI D6		<b>J. Home</b>
<b>103-0253-01L</b>	<b>Parameter Estimation</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>					
103-0253-01 G	Parameterschätzung			3 hrs	Wed	14-17	HCI D2		<b>E. Brockmann</b>

## ►► Examination Block 3

Number	Title	Type	ECTS	Hours					Lecturers
<b>363-1004-00L</b>	<b>Operations Research</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					
363-1004-00 G	Operations Research <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Mon	08-10	ML F39		<b>S. Bütikofer van Oordt</b>
<b>101-0031-01L</b>	<b>Systems Engineering</b>	<b>O</b>	<b>4 credits</b>	<b>4G</b>					
101-0031-01 G	Systems Engineering <i>Vorlesung: Donnerstag</i> <i>Übung: Montag</i> <i>Fragestunde: Wird in der ersten Vorlesung bekanntgegeben</i>  <i>Online lecture: This lecture will primarily take place online.</i> <i>Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			4 hrs	Mon Thu	16-18 10-12	HIL E4 ETF C1		<b>B. T. Adey</b>
<b>101-0515-00L</b>	<b>Project Management</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>					
101-0515-00 G	Projektmanagement			2 hrs	Fri	14-16	HIL E1		<b>C. G. C. Marxt</b>

## ► Elective Blocks

### ►► Geodesy and Satellite Navigation

Number	Title	Type	ECTS	Hours					Lecturers
<b>103-0139-00L</b>	<b>Geodetic Networks and Data Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
103-0139-00 G	Geodätische Netze und Datenanalyse			4 hrs	Tue Thu	14-16 14-16	HIL E6 HCP E47.1		<b>R. Hohensinn</b>

### ►► Digitisation and 3D Modelling

Number	Title	Type	ECTS	Hours				Lecturers
103-0115-01L	Geodetic Measuring Technology and Laserscanning	W	6 credits	4G				
103-0115-01 G	Geodätische Messtechnik und Laserscanning			4 hrs	Wed	13-17	HIL D53	M. Vollmer, A. Wieser, N. Meyer
►► GIS and Cartography								
Number	Title	Type	ECTS	Hours				Lecturers
103-0717-00L	Geoinformation Technologies and Analysis	W	6 credits	5G				
103-0717-00 G	Geoinformationstechnologien und -analysen			5 hrs	Tue Wed	10-13 10-12	HIL E15.2 HIL E7	W. Kuhn
►► Spatial and Environmental Planning								
Number	Title	Type	ECTS	Hours				Lecturers
103-0325-02L	Integrated Spatial Planning in Cities and Districts	W	6 credits	4G				
103-0325-02 G	Integrierte Raumentwicklung in Städten und Quartieren			4 hrs	Mon	12-16	HIL E8	G. Di Carlo Alvarez, F. Günther
►► Traffic Systems								
Number	Title	Type	ECTS	Hours				Lecturers
101-0415-01L	Public Transport and Railways	W	3 credits	2G				
101-0415-01 G	Public Transport and Railways			2 hrs	Fri	12-14	HIL E1	A. Nash, H. Orth, S. Schranil
►► Network Infrastructure								
Number	Title	Type	ECTS	Hours				Lecturers
052-0609-00L	Energy- and Climate Systems I	W	2 credits	2G				
052-0609-00 G	Energie- und Klimasysteme I Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).			2 hrs	Fri	10-12	HIL E3	A. Schlüter
052-0701-00L	Urban Design I	W	2 credits	2V				
052-0701-00 V	Städtebau I Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 9. und 16.12. (vor Schlussabgaben).			2 hrs	Thu	08-10	HPH G1	M. Wagner
► Electives								
►► Electives ETH Zurich								
Course Catalogue of ETH Zurich								
►► Recommended Electives of Bachelor Degree Programme								
Number	Title	Type	ECTS	Hours				Lecturers
103-0240-00L	Cartography Seminar	W	4 credits	9S				
103-0240-00 S	Kartografie-Seminar Die Lehrveranstaltung findet nach Vereinbarung mit dem Dozierenden statt.			120s hrs				L. Hurni
103-0241-00L	Cartography Lab 1	W	6 credits	13S				
103-0241-00 S	Kartografie-Labor 1 Die Lehrveranstaltung findet nach Vereinbarung mit dem Dozierenden statt.			180s hrs				L. Hurni
103-0242-00L	Cartography Lab 2	W	8 credits	17S				
103-0242-00 S	Kartografie-Labor 2 Die Lehrveranstaltung findet nach Vereinbarung mit dem Dozierenden statt.			240s hrs				L. Hurni
► GESS Science in Perspective								
►► Science in Perspective								
see Science in Perspective: Type A: Enhancement of Reflection Capability								
Recommended Science in Perspective (Type B) for D-BAUG								
►► Language Courses								
see Science in Perspective: Language Courses ETH/UZH								
► Bachelor's Thesis								
Number	Title	Type	ECTS	Hours				Lecturers
103-0006-10L	Bachelor's Thesis	O	10 credits	21D				
	Registration in myStudies by 15 January for theses during the spring semester, by 15 August for theses during the autumn semester.							
103-0006-10 D	Bachelor-Arbeit ■			300s hrs	by appt.			Lecturers

---

**Geospatial Engineering Bachelor - Key for Type**

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

---

**Key for Hours**

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

---

ECTS      European Credit Transfer and Accumulation System  
■          Special students and auditors need special permission from the lecturers.

# Spatial Development and Infrastructure Systems Master

## ► Master Studies (Programme Regulations 2021)

### ►► Compulsory Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>101-0467-01L</b>	<b>Transport Systems</b> <i>Only for master students, otherwise a special permission by the lecturers is required.</i>	<b>O</b>	<b>6 credits</b>	<b>4G</b>				
101-0467-01 G	Transport Systems			4 hrs	Wed Thu	08-10 14-16	HIT K52 HIT K52	<b>K. W. Axhausen</b> , A. Kouvelas, Y. Zhu
<b>103-0317-00L</b>	<b>Introduction to Spatial Development and Transformation</b> <i>Only for master students, otherwise a special permission by the lecturer is required.</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
103-0317-00 G	Introduction to Spatial Development and Transformation			2 hrs	Tue	10-12	HIL E6	<b>M. Nollert</b> , D. Kaufmann
<b>103-0347-00L</b>	<b>Landscape Planning and Environmental Systems</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
103-0347-00 V	Landscape Planning and Environmental Systems			2 hrs	Fri	08-10	HIL E8	<b>A. Grêt-Regamey</b>
<b>103-0377-10L</b>	<b>Basics of RE&amp;IS</b> <i>Only for Spatial Development and Infrastructure Systems MSc.</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
103-0377-10 G	Basics of RE&IS			2 hrs	Thu	16-18	HIL D10.2	<b>K. W. Axhausen</b> , B. T. Adey, A. Grêt-Regamey, C. Sailer
<b>101-0509-10L</b>	<b>Network Infrastructure 1</b> <i>Only for Spatial Development and Infrastructure Systems MSc.</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
101-0509-10 G	Network Infrastructure 1			2 hrs	Tue	14-16	HCI H2.1	<b>B. T. Adey</b> , C. Martani
<b>103-0378-00L</b>	<b>Introduction to the Programming Language R</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
103-0378-00 G	Introduction to the Programming Language R			2 hrs	Thu	10-12	HIL H40.8	<b>M. J. Van Strien</b> , A. Grêt-Regamey

### ►► Major Courses

#### ►►► Major in Spatial and Landscape Development

Number	Title	Type	ECTS	Hours				Lecturers
<b>103-0337-00L</b>	<b>Site and Project Development</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
103-0337-00 G	Standort- und Projektentwicklung			2 hrs	Fri 08.10. 15.10. 12.11.	12-14 12-14 12-14 12-14	HIL H40.9 HIT K51 HIT K51 HIT K51	<b>A. Gonzalez Martinez</b> , M. Sudau, J. Van Wezemael
<b>103-0417-02L</b>	<b>Methodology of Planning Research and Practice</b> <i>Only for master students, otherwise a special permission by the lecturer is required.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
103-0417-02 G	Methoden der Planung in Forschung und Praxis			2 hrs	Wed	14-16	HIL D60.1	<b>A. Peric Momcilovic</b> , T. B. Hug, R. Streit
<b>851-0707-00L</b>	<b>Space Planning Law and Environment</b> <i>Particularly suitable for students of D-ARCH, D-BAUG, D-USYS</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
851-0707-00 G	Raumplanungsrecht und Umwelt <i>Vorlesungs-/Übungsveranstaltung nach speziellem Programm. Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Wed	16-18	HG F5	<b>O. Bucher</b>
<b>103-0327-00L</b>	<b>History of Spatial Planning</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
103-0327-00 V	Geschichte der Raumplanung			2 hrs	Mon	10-12	HIL D10.2	<b>M. Koll-Schretzenmayr</b>
<b>103-0569-00L</b>	<b>European Aspects of Spatial Development</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
103-0569-00 G	European Aspects of Spatial Development <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain available for students to follow the seminar from there.</i>			2 hrs	Tue	16-18	HIL D53	<b>A. Peric Momcilovic</b>
<b>103-0347-01L</b>	<b>Landscape Planning and Environmental Systems (GIS Exercises)</b>	<b>W</b>	<b>3 credits</b>	<b>2U</b>				
103-0347-01 U	Landscape Planning and Environmental Systems (GIS Exercises)			2 hrs	Wed	16-18	HIL E10.1 HIL E15.2 HIL F15.4	<b>A. Grêt-Regamey</b> , C. Brouillet, N. Klein
<b>701-1631-00L</b>	<b>Foundations of Ecosystem Management</b>	<b>W</b>	<b>5 credits</b>	<b>3G</b>				
701-1631-00 G	Foundations of Ecosystem Management			3 hrs	Thu 23.09.	10-13 10-13	CHN G46 HG E41 HG E33.1	<b>J. Ghazoul</b> , C. Garcia, J. Garcia Ulloa, A. Giger Dray

<b>701-1453-00L</b>	<b>Ecological Assessment and Evaluation</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
701-1453-00 G	Ecological Assessment and Evaluation			3 hrs	Mon	16-19	CHN E46	<b>F. Knaus</b>	
<b>052-0705-00L</b>	<b>Landscape Architecture I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
052-0705-00 V	Landschaftsarchitektur I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).</i>			2 hrs	Fri	08-10	HIL E3	<b>D. Richter</b>	
<b>103-0468-00L</b>	<b>Participatory Modeling in Integrated Landscape Development</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
103-0468-00 G	Participatory Modeling in Integrated Landscape Development <i>Please consult the lecture's website for detailed information about rooms and program.</i> <a href="https://iri.ethz.ch/education/courses/msc/participatory_modelling.html">https://iri.ethz.ch/education/courses/msc/participatory_modelling.html</a>  <i>Room information of dates 07.10., 14.10., 11.11. and 09.12.2021 will be published later on.</i>			2 hrs	Thu	14-16	HIL H35.1 HIL H40.4 HIL E10.1 n/a n/a n/a	<b>E. Celio, N. Salliou</b>	
<b>102-0317-00L</b>	<b>Advanced Environmental Assessments</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
102-0317-00 G	<i>Master students in Environmental Engineering choosing module Ecological Systems Design are not allowed to enrol 102-0317-00 Advanced Environmental Assessments (3KP) as already included in 102-0307-01 Advanced Environmental, Social and Economic Assessments (5KP).</i> Advanced Environmental Assessments			2 hrs	Thu	10-12	HIL E9	<b>S. Pfister, R. Frischknecht</b>	
<b>063-0703-00L</b>	<b>Architecture of Territory: Territorial Design in Histories, Theories and Projects</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
063-0703-00 V	<i>This core course (ending with «00L») can only be passed once! Please check before signing up.</i> Architecture of Territory: Territorial Design in Histories, Theories and Projects <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	10-12	ONA E7	<b>M. Topalovic</b>	

### ►►► Major in Transport Systems and Behaviour

Number	Title	Type	ECTS	Hours	Lecturers				
<b>101-0427-01L</b>	<b>Public Transport Design and Operations</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0427-01 G	Public Transport Design and Operations			4 hrs	Mon Thu	14-16 08-10	HIL E10.1 HIL E10.1	<b>F. Corman, F. Leutwiler</b>	
<b>151-0227-00L</b>	<b>Basics of Air Transport (Aviation I)</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0227-00 G	Basics of Air Transport (Aviation I)			3 hrs	Wed	13-16	CAB G11	<b>P. Wild</b>	
<b>101-0417-00L</b>	<b>Transport Planning Methods</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0417-00 G	Transport Planning Methods			4 hrs	Mon Wed 22.09. 27.09. 29.09. 04.10. 06.10.	10-12 10-12 10-12 10-12 10-12 10-12 10-12	HIL F36.1 HIL F36.1 HCP E47.1 HIL F10.3 HCP E47.1 HIL F10.3 HCP E47.1	<b>K. W. Axhausen</b>	
<b>101-0437-00L</b>	<b>Traffic Engineering</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0437-00 G	Traffic Engineering			4 hrs	Mon Tue	16-18 16-18	HIL D10.2 HIL D10.2	<b>A. Kouvelas</b>	
<b>227-0523-00L</b>	<b>Railway Systems I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0523-00 G	Eisenbahn-Systemtechnik I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>			4 hrs	Fri	08-12	LFW C1	<b>M. Meyer</b>	
<b>363-1047-00L</b>	<b>Urban Systems and Transportation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-1047-00 G	Urban Systems and Transportation <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	10-12	LFW B1	<b>G. Loumeau</b>	
<b>101-0492-00L</b>	<b>Microscopic Modelling and Simulation of Traffic Operations</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0492-00 G	Microscopic Modelling and Simulation of Traffic Operations			2 hrs	Thu	10-12	HIL G15.4	<b>M. Makridis</b>	
<b>101-0491-00L</b>	<b>Agent Based Modeling in Transportation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0491-00 G	Agent Based Modeling in Transportation			4 hrs	Mon Tue	10-12 14-16	HPK D24.2 HPK D24.2	<b>M. Balac</b>	
<b>101-0469-00L</b>	<b>Road Safety</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0469-00 G	Strassenverkehrssicherheit: Grundlagen, Wirkungsweisen, Verfahren			4 hrs	Fri	14-18	HIL F10.3	<b>M. Deublein, P. Eberling</b>	

### ►►► Network Infrastructure

Number	Title	Type	ECTS	Hours	Lecturers				
--------	-------	------	------	-------	-----------	--	--	--	--

<b>101-0549-00L</b>	<b>Selected Topics on Legal Aspects in Civil Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0549-00 G	AK Baurecht			2 hrs	Wed	16-18	HIL E6	<b>H. Briner, D. Trümpy</b>	
<b>101-0492-00L</b>	<b>Microscopic Modelling and Simulation of Traffic Operations</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0492-00 G	Microscopic Modelling and Simulation of Traffic Operations			2 hrs	Thu	10-12	HIL G15.4	<b>M. Makridis</b>	
<b>101-0469-00L</b>	<b>Road Safety</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0469-00 G	Strassenverkehrssicherheit: Grundlagen, Wirkungsweisen, Verfahren			4 hrs	Fri	14-18	HIL F10.3	<b>M. Deublein, P. Eberling</b>	
<b>101-0419-02L</b>	<b>Railway Infrastructures 2</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
101-0419-02 G	Bahninfrastrukturen 2			2 hrs	Tue	16-18	HIL E6	<b>U. A. Weidmann, P. Güldenapfel, M. Kohler, M. J. Manhart</b>	

### ►►► Major Courses for all Majors

Number	Title	Type	ECTS	Hours					Lecturers
<b>063-0701-00L</b>	<b>Methods of Urban Research</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
	<i>This core course (ends with «00L») can only be passed once! Please check this before signing up</i>								
063-0701-00 G	Methoden der Stadtforschung Keine Lehrveranstaltung am 28.10. (Seminarwoche) sowie am 16./23.12. (vor Schlussabgaben). ONLINE: Diese Lehrveranstaltung wird hauptsächlich online angeboten. Der reservierte Raum steht den Studierenden jedoch zur Verfügung, um das Seminar von dort aus zu verfolgen.			2 hrs	Thu	14-16	HIL E1	<b>C. Schmid, I. Apostol, N. Bathla, L. Howe, C. Ting</b>	
<b>363-0541-00L</b>	<b>Systems Dynamics and Complexity</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
363-0541-00 G	Systems Dynamics and Complexity Lecture: Thursday, 08-10 h Exercises: Tuesday, 12-13 h The lecture takes place in classroom, online via livestreaming or zoom and recorded.			3 hrs	Tue Thu	12-13 08-10	HG D1.2 HG D1.2	<b>F. Schweitzer</b>	

### ►► Interdisciplinary Project Work

Number	Title	Type	ECTS	Hours					Lecturers
<b>103-0020-00L</b>	<b>Interdisciplinary Project</b>	<b>O</b>	<b>16 credits</b>	<b>34A</b>					
	<i>Only for Spatial Development and Infrastructure Systems MSc, Programme Regulations 2021.</i>								
103-0020-00 A	Interdisziplinäre Projektarbeit Die aufgeführten Raum- und Vorlesungszeiten sind nur aus organisatorischen Gründen aufgeführt. Die Studierenden sind nicht verpflichtet, an diesem bestimmten Ort und zu dieser bestimmten Zeit zu arbeiten. Die offiziellen Kontaktstunden zwischen Studierenden und Dozierenden sind normalerweise für dieses Zeitfenster (d.h. Mittwochnachmittag) geplant, jedoch sind Abweichungen möglich und werden in der Projektbeschreibung angekündigt.			480s hrs	23.09.	15-18	HCI J8	<b>A. Grêt-Regamey</b>	

### ►► Master's Thesis

Number	Title	Type	ECTS	Hours					Lecturers
<b>103-0010-10L</b>	<b>Master's Thesis</b>	<b>O</b>	<b>20 credits</b>	<b>43D</b>					
	<i>Only for Spatial Development and Infrastructure Systems MSc, Programme Regulations 2021.</i>								
	<i>Before starting the Master's thesis, students must have</i> a. obtained the Bachelor's degree; b. fulfilled all specified admission conditions, if any; c. acquired at least 90 credits in the Master's programme, including the credits in the mandatory courses and 12 credits in the area of the interdisciplinary project.								
103-0010-10 D	Master-Arbeit Permission from lecturers required for all students			600s hrs	by appt.			<b>Supervisors</b>	

### ► Master Studies (Programme Regulations 2009)

#### ►► Major Courses

#### ►►► Major in Spatial and Landscape Development

Number	Title	Type	ECTS	Hours					Lecturers
<b>103-0468-00L</b>	<b>Participatory Modeling in Integrated Landscape Development</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					

103-0468-00 G	Participatory Modeling in Integrated Landscape Development <i>Please consult the lecture's website for detailed information about rooms and program.</i> <a href="https://irl.ethz.ch/education/courses/msc/participatory_modelling.html">https://irl.ethz.ch/education/courses/msc/participatory_modelling.html</a>	2 hrs	Thu	14-16	HIL H35.1 HIL H40.4 HIL E10.1 n/a n/a	<b>E. Celio, N. Salliou</b>
Room information of dates 07.10., 14.10., 11.11. and 09.12.2021 will be published later on.						

<b>052-0801-00L</b>	<b>Global History of Urban Design I</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
052-0801-00 G	Global History of Urban Design I <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	10-12	HIL E4	<b>T. Avermaete</b>

### ►►► Major in Transport Systems and Behaviour

Number	Title	Type	ECTS	Hours					Lecturers
<b>363-0445-00L</b>	<b>Production and Operations Management W</b>		<b>3 credits</b>	<b>2G</b>					
363-0445-00 G	Production and Operations Management <i>This course can be followed fully online and offers extracurricular opportunities for students who want to engage with the teaching staff in the classroom.</i>			2 hrs	Thu	14-16	CAB G11		<b>T. Netland</b>
<b>363-0445-02L</b>	<b>Production and Operations Management W – Supplement Credit</b> <i>A parallel enrolment to the lecture 363-0445-00L Production and Operations Management is mandatory.</i>	<b>W</b>	<b>1 credit</b>	<b>1A</b>					
363-0445-02 A	Production and Operations Management – Supplement Credit <i>Does not take place this semester. Irregular lecture</i>			7s hrs					<b>T. Netland</b>

<b>101-0491-00L</b>	<b>Agent Based Modeling in Transportation W</b>		<b>6 credits</b>	<b>4G</b>					
101-0491-00 G	Agent Based Modeling in Transportation			4 hrs	Mon Tue	10-12 14-16	HPK D24.2 HPK D24.2		<b>M. Balac</b>
<b>101-0469-00L</b>	<b>Road Safety</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0469-00 G	Strassenverkehrssicherheit: Grundlagen, Wirkungsweisen, Verfahren			4 hrs	Fri	14-18	HIL F10.3		<b>M. Deublein, P. Eberling</b>
<b>101-0492-00L</b>	<b>Microscopic Modelling and Simulation of Traffic Operations</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0492-00 G	Microscopic Modelling and Simulation of Traffic Operations			2 hrs	Thu	10-12	HIL G15.4		<b>M. Makridis</b>
<b>401-0647-00L</b>	<b>Introduction to Mathematical Optimization</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0647-00 V	Introduction to Mathematical Optimization			2 hrs	Tue	16-18	HG F5		<b>D. Adjashvili</b>
401-0647-00 U	Introduction to Mathematical Optimization <i>Groups are selected in myStudies. Wed 12-13 or Wed 16-17</i>			1 hrs	Wed	12-13 16-17	HG D1.2 IFW A36 ON LINE		<b>D. Adjashvili</b>

### ►►► Network Infrastructure

Number	Title	Type	ECTS	Hours					Lecturers
<b>101-0258-00L</b>	<b>River Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0258-00 G	River Engineering			2 hrs	Wed	16-18	HIL E8		<b>V. Weitbrecht, I. Schalko, K. Sperger</b>
<b>101-0469-00L</b>	<b>Road Safety</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0469-00 G	Strassenverkehrssicherheit: Grundlagen, Wirkungsweisen, Verfahren			4 hrs	Fri	14-18	HIL F10.3		<b>M. Deublein, P. Eberling</b>
<b>101-0492-00L</b>	<b>Microscopic Modelling and Simulation of Traffic Operations</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0492-00 G	Microscopic Modelling and Simulation of Traffic Operations			2 hrs	Thu	10-12	HIL G15.4		<b>M. Makridis</b>
<b>101-0419-02L</b>	<b>Railway Infrastructures 2</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
101-0419-02 G	Bahninfrastrukturen 2			2 hrs	Tue	16-18	HIL E6		<b>U. A. Weidmann, P. Güldenapfel, M. Kohler, M. J. Manhart</b>
<b>101-0187-00L</b>	<b>Structural Reliability and Risk Analysis</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0187-00 G	Structural Reliability and Risk Analysis			2 hrs	Fri	10-12	HCI J6		<b>S. Marelli</b>

### ►►► Major Courses for all Majors

Number	Title	Type	ECTS	Hours					Lecturers
<b>101-0507-00L</b>	<b>Infrastructure Management 3: Optimisation Tools</b>	<b>W</b>	<b>6 credits</b>	<b>2G</b>					
101-0507-00 G	Infrastructure Management 3: Optimisation Tools <i>Does not take place this semester. Next time in HS22.</i>			2 hrs					<b>B. T. Adey</b>

### ►► Interdisciplinary Project Work

Number	Title	Type	ECTS	Hours					Lecturers
<b>101-0489-02L</b>	<b>Interdisciplinary Project</b>	<b>O</b>	<b>12 credits</b>	<b>26A</b>					



Only for Spatial Development and Infrastructure Systems MSc, Programme Regulations 2009.

101-0489-02 A	Interdisziplinäre Projektarbeit <i>Die aufgeführten Raum- und Vorlesungszeiten sind nur aus organisatorischen Gründen aufgeführt. Die Studierenden sind nicht verpflichtet, an diesem bestimmten Ort und zu dieser bestimmten Zeit zu arbeiten. Die offiziellen Kontaktstunden zwischen Studierenden und Dozierenden sind normalerweise für dieses Zeitfenster (d.h. Mittwochnachmittag) geplant, jedoch sind Abweichungen möglich und werden in der Projektbeschreibung angekündigt.</i>	360s hrs	Wed	13-18	HIL F36.1	<b>A. Grêt-Regamey</b>
---------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------	-----	-------	-----------	------------------------

## ►► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers	
103-0010-00L	<b>Master's Thesis</b> <i>Only for Spatial Development and Infrastructure Systems MSc, Programme Regulations 2009.</i>  <i>Before starting the Master's thesis, students must have</i> <i>a. obtained the Bachelor's degree;</i> <i>b. fulfilled all specified admission conditions, if any;</i> <i>c. acquired at least 90 credits in the Master's programme, including the credits in the mandatory courses and 12 credits in the area of the interdisciplinary project.</i>	O	24 credits	51D		
103-0010-00 D	Master-Arbeit <i>Permission from lecturers required for all students</i>			720s hrs by appt.	Supervisors	

## ► Electives

The entire course programs of ETH Zurich and University Zurich are open to the students to individual selection. The students have themselves to check whether they meet the admission requirements for a course.

## ►► Recommended Electives of Master Degree Programme

Number	Title	Type	ECTS	Hours	Lecturers	
103-0227-00L	<b>Cartography III</b>	W	5 credits	4G		
103-0227-00 G	Cartography III			4 hrs Mon 13-17 HIL G22	L. Hurni	
151-0757-00L	<b>Environmental Management</b>	W	2 credits	2G		
151-0757-00 G	Umwelt-Management <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs Wed 18-20 ML D28	R. Züst	
851-0703-03L	<b>Private Construction Law</b> <i>Only for Civil Engineering BSc, Spatial Development and Infrastructure Systems MSc and UZH MNF Geographie/Erdsystemswissenschaften.</i>	W	2 credits	2V		
851-0703-03 V	Privates Baurecht ■			2 hrs Mon 16-18 HG F5	T. Ender, E. Rüegg	
101-0193-00L	<b>Systemic Design Labs: RE:GENERATE Alpine-Urban Circularity</b>	W	4 credits	2S		
101-0193-00 S	Systemic Design Labs: RE:GENERATE Alpine-Urban Circularity <i>Intro: 24.9.21, 14-17h Block (excursion/field work): 13.-17.10.21, full days Final presentation: 10.12.21, 14-17h</i>			30s hrs	T. Luthe	
101-0507-00L	<b>Infrastructure Management 3: Optimisation Tools</b>	W	6 credits	2G		
101-0507-00 G	Infrastructure Management 3: Optimisation Tools <i>Does not take place this semester. Next time in HS22.</i>			2 hrs	B. T. Adey	
401-0647-00L	<b>Introduction to Mathematical Optimization</b>	W	5 credits	2V+1U		
401-0647-00 V	Introduction to Mathematical Optimization			2 hrs Tue 16-18 HG F5	D. Adjashvili D. Adjashvili	
401-0647-00 U	Introduction to Mathematical Optimization <i>Groups are selected in myStudies. Wed 12-13 or Wed 16-17</i>			1 hrs Wed 12-13 HG D1.2 16-17 IFW A36 ON LINE		
101-0258-00L	<b>River Engineering</b>	W	3 credits	2G		
101-0258-00 G	River Engineering			2 hrs Wed 16-18 HIL E8	V. Weitbrecht, I. Schalko, K. Sperger	
363-0445-00L	<b>Production and Operations Management</b>	W	3 credits	2G		
363-0445-00 G	Production and Operations Management <i>This course can be followed fully online and offers extracurricular opportunities for students who want to engage with the teaching staff in the classroom.</i>			2 hrs Thu 14-16 CAB G11	T. Netland	
701-0565-00L	<b>Fundamentals of Natural Hazards Management</b>	W	3 credits	3G		

701-0565-00 G	Grundzüge des Naturgefahrenmanagements <i>Does not take place this semester. Zusätzlich zwei obligatorische, ganztägige Exkursionen.</i>	3 hrs						<b>V. Griess, B. Krummenacher, S. Löw</b>
<b>052-0801-00L</b>	<b>Global History of Urban Design I</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
052-0801-00 G	Global History of Urban Design I <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	10-12	HIL E4	<b>T. Avermaete</b>
<b>101-0187-00L</b>	<b>Structural Reliability and Risk Analysis</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0187-00 G	Structural Reliability and Risk Analysis			2 hrs	Fri	10-12	HCI J6	<b>S. Marelli</b>
<b>363-0565-00L</b>	<b>Principles of Macroeconomics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
363-0565-00 V	Principles of Macroeconomics <i>Di 16-18 im ETA F 5 mit Videoübertragung im ETF E 1. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Tue	16-18	ETA F5 ETF E1	<b>J.-E. Sturm</b>
<b>052-0707-00L</b>	<b>Urban Design III</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
052-0707-00 V	Urban Design III <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	08-10	ONA E7	<b>H. Klumpner, M. Fessel</b>
<b>363-0445-02L</b>	<b>Production and Operations Management</b>	<b>W</b>	<b>1 credit</b>	<b>1A</b>				
	<b>– Supplement Credit</b> <i>A parallel enrolment to the lecture 363-0445-00L Production and Operations Management is mandatory.</i>							
363-0445-02 A	Production and Operations Management – Supplement Credit <i>Does not take place this semester. Irregular lecture</i>			7s hrs				<b>T. Netland</b>
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>				
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	<b>R. Zenklusen</b>
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>			2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>				
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon	14-16	HG G5	<b>L. Meier</b>
401-0625-01 U	Applied Analysis of Variance and Experimental Design			1 hrs	Mon/2w	16-18	HG E1.1	<b>L. Meier</b>
<b>101-0249-00L</b>	<b>Hydraulic Engineering: Selected Topics</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
	<i>Prerequisites: 101-0247-01L Hydraulic Engineering II or equivalent course.</i>							
101-0249-00 S	Hydraulic Engineering: Selected Topics <i>Teaching language mainly English, selected lectures may be held in German. Former Title until HS19: Ausgewählte Kapitel aus dem Wasserbau (in German).</i>			2 hrs	Thu	16-18	HIL E7	<b>R. Boes</b>

## ►► Electives ETH Zurich

Course Catalogue of ETH Zurich

## ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-BAUG.

## ► Course Units for Additional Admission Requirements

The courses below are only available for MSc students with additional admission requirements.

Number	Title	Type	ECTS	Hours	Lecturers
<b>101-0031-AAL</b>	<b>Systems Engineering</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	
	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>				
101-0031-AA R	Systems Engineering <i>Self-study course. No presence required.</i>			120s hrs	<b>B. T. Adey</b>
<b>101-0414-AAL</b>	<b>Transport Planning (Transportation I)</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>	

additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

101-0414-AA R Transport Planning (Transportation I) 90s hrs K. W. Axhausen  
Self-study course. No presence required.

**101-0515-AAL Project Management** E- 2 credits 4R  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

101-0515-AA R Project Management 60s hrs B. T. Adey  
Self-study course. No presence required.

**102-0516-AAL Environmental Impact Assessment** E- 3 credits 6R  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

102-0516-AA R Environmental Impact Assessment 90s hrs S.-E. Rabe  
Self-study course. No presence required.

**103-0116-AAL Ecology and Soil Science** E- 3 credits 6R  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

103-0116-AA R Ecology and Soil Science 90s hrs S. Tobias  
Self-study course. No presence required.

**103-0313-AAL Spatial Planning and Landscape Development** E- 5 credits 11R  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

103-0313-AA R Spatial Planning and Landscape Development 150s hrs S.-E. Rabe  
Self-study course. No presence required.

**103-0357-AAL Environmental Planning** E- 3 credits 6R  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

103-0357-AA R Environmental Planning 90s hrs S.-E. Rabe  
Self-study course. No presence required.

**103-0414-AAL Transport Basics** E- 4 credits 9R  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

103-0414-AA R Transport Basics 120s hrs K. W. Axhausen  
Self-study course. No presence required.

**252-0846-AAL Computer Science II** E- 4 credits 9R  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

252-0846-AA R Computer Science II 120s hrs F. O. Friedrich Wicker, R. Sasse  
Self-study course. No presence required.

**406-0242-AAL Analysis II** E- 7 credits 15R  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-0242-AA R	Analysis II Self-study course. No presence required.		210s hrs	M. Akveld
<b>406-0251-AAL</b>	<b>Mathematics I</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>6 credits</b>	<b>13R</b>
Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-0251-AA R	Mathematics I Self-study course. No presence required.		180s hrs	F. Da Lio
<b>406-0603-AAL</b>	<b>Stochastics (Probability and Statistics)</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>4 credits</b>	<b>9R</b>
Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
406-0603-AA R	Stochastics (Probability and Statistics) Self-study course. No presence required.		120s hrs	M. Kalisch
<b>103-2233-AAL</b>	<b>GIS Basics</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>6 credits</b>	<b>13R</b>
Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
103-2233-AA R	GIS Basics Self-study course. No presence required.		180s hrs	W. Kuhn
<b>252-0856-AAL</b>	<b>Computer Science</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>4 credits</b>	<b>9R</b>
Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
252-0856-AA R	Computer Science Self-study course. No presence required.		120s hrs	F. O. Friedrich Wicker, R. Sasse
<b>103-0717-AAL</b>	<b>Geoinformation Technologies and Analysis</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>6 credits</b>	<b>13R</b>
Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
103-0717-AA R	Geoinformation Technologies and Analysis Self-study course. No presence required.		180s hrs	W. Kuhn
<b>103-0234-AAL</b>	<b>GIS II</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.	<b>E-</b>	<b>5 credits</b>	<b>11R</b>
Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.				
103-0234-AA R	GIS II Self-study course. No presence required.		150s hrs	W. Kuhn

#### Spatial Development and Infrastructure Systems Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Computational Science and Engineering Bachelor

## ► First Year Compulsory Courses

### ►► First Year Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0151-00L</b>	<b>Linear Algebra</b>	<b>O</b>	<b>5 credits</b>	<b>3V+2U</b>				
401-0151-00 V	Lineare Algebra <i>Vorlesung im HG F1 mit Videoübertragung ins HG F3. Dauer jeweils bis 12:45</i>			3 hrs	Fri	10-13	HG F1 HG F3	<b>V. C. Gradinaru</b>
401-0151-00 U	Lineare Algebra <i>Groups are selected in myStudies. Übungen: Di 16-18 oder Do 16-18 für Studiengang Elektrotechnik und Informationstechnologie gemäss Gruppeneinteilung. Do 10-12 für Studiengang Rechnergestützte Wissenschaften. Übungen in den einzelnen Übungsgruppen beginnen in der zweiten Semesterwoche.  Zusätzlich zu den Übungen wird ein Study Center angeboten: (ab der zweiten Semesterwoche, gemäss <a href="https://metaphor.ethz.ch/x/2020/hs/401-0151-00L/">https://metaphor.ethz.ch/x/2020/hs/401-0151-00L/</a>)</i>			2 hrs	Tue	16-18	CAB G61 CHN C14 CLA E4 ML F40 NO D11 RZ F21 CAB G56 HG F26.5 CHN D48 CHN G46 ETZ E8 ETZ K91 ML E12	<b>V. C. Gradinaru</b>
<b>252-0025-01L</b>	<b>Discrete Mathematics</b>	<b>O</b>	<b>7 credits</b>	<b>4V+2U</b>				
252-0025-01 V	Diskrete Mathematik <i>Findet im ETA F 5 mit Videoübertragung im ETF E 1 statt.</i>			4 hrs	Mon	14-16	ETA F5 ETF E1	<b>U. Maurer</b>
					Wed	14-16	ETA F5 ETF E1	
252-0025-01 U	Diskrete Mathematik <i>Groups are selected in myStudies. Keine Übungsstunden in der ersten Semesterwoche.</i>			2 hrs	Mon	16-18	CAB G52 CAB G56 CAB G57 CHN D42 CHN D44 CHN D46 CHN D48 CHN E42 ETZ F91 ETZ G91 ETZ H91 ETZ K91 HG F26.5 LFW B3 LFW E13 CAB G57 CHN D46 CHN G22 HG E21 HG E33.5 HG G26.5 IFW A34 IFW C31 LFW E13 NO E11 NO E39	<b>U. Maurer</b>
					Tue	14-16		
<b>252-0856-00L</b>	<b>Computer Science</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
252-0856-00 V	Informatik			2 hrs	Mon	08-10 22.09.	ML E12 HG D1.2	<b>F. O. Friedrich Wicker, R. Sasse</b>
252-0856-00 U	Informatik <i>Übungen finden ab der zweiten Semesterwoche statt.</i>			2 hrs	Tue	14-16	HIT K51 HIT K52	<b>F. O. Friedrich Wicker, R. Sasse</b>
					Wed	10-12	CAB G56 LFW B3	

### ►► First Year Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0231-10L</b>	<b>Analysis 1</b> <i>Students in BSc EEIT may instead register for 401-1261-07L Analysis I: One Variable (for BSc Mathematics, BSc Physics and BSc Interdisciplinary Science (Phys Chem)) and take the performance assessment of the corresponding two-semester course. Students in BSc EEIT who wish to register for 401-1261-07L/401-1262-07L Analysis I: One Variable/Analysis II: Several Variables instead of 401-0231-10L/401-0232-10L Analysis 1/Analysis 2 must get in touch with the Study Administration before the registration.</i>	<b>O</b>	<b>8 credits</b>	<b>4V+3U</b>				
401-0231-10 V	Analysis 1 (für EEIT und RW) <i>Findet im HG F7 mit Videoübertragung ins HG F5 statt.</i>			4 hrs	Wed	08-10	HG F5 HG F7	<b>T. Rivière</b>
					Thu	08-10	HG F5 HG F7	

401-0231-10 U	Analysis 1 (für EEIT und RW) <i>Groups are selected in myStudies.</i> <i>Übungen:</i> <i>Mo 10-12 für Studiengang Rechnergestützte Wissenschaften.</i> <i>Mo 14-16 oder Mo 16-18 gemäss Gruppeneinteilung für Studiengänge Elektrotechnik und Informationstechnologie bzw. Interdisziplinäre Naturwissenschaften.</i> <i>Schnellübungen Fr 8-10 (14-täglich).</i>  <i>Zusätzlich zu den Übungen wird ein Study Center angeboten: Di 11-12 im IFW D 42 ab der zweiten Semesterwoche.</i>	O	4 credits	3V+1U	3 hrs	Mon	10-12	CAB G56 LFW C4 ETZ F91 ETZ J91 HG D3.1 HG E22 LEE C114 LFV E41	T. Rivière
							14-16		
							16-18	ETZ J91 HG D3.1 HG E22 LEE C104 LEE C114 LFV E41	
						Fri/2w	08-10	ETZ E9 ETZ K91 HG D3.2 IFW A32.1 LFV E41 LFW C5 NO C44	

402-0043-00L	Physics I	O	4 credits	3V+1U	3 hrs	Tue	16-17	HPH G2	J. Home
402-0043-00 V	Physics I (Physik I)				3 hrs	Thu	16-18	HPH G2	
402-0043-00 U	Physik I <i>Di 17-18 für Studiengang Rechnergestützte Wissenschaften.</i> <i>Mi 9-10 (oder Di 17-18 als Ausweichtermin) für Studiengänge Chemie bzw. Chemieingenieurwissenschaften sowie Interdisziplinäre Naturwissenschaften.</i> <i>Mi 12-13 für Studiengang Raumbezogene Ingenieurwissenschaften.</i> <i>Do 10-11 für Studiengang Biochemie.</i>				1 hrs	Tue	17-18	HCI D2 HIT F31.1 HIT H51 HIT J51 CAB G52 HG E21 HG E22 HG E33.5 HG G26.3 ML H41.1 ML J34.1 ML J34.3 HG D3.2 HCI D6	J. Home
						Wed	09-10		
						Thu	12-13		
							10-11		

## ► Basic Courses

### ►► Block G1

Number	Title	Type	ECTS	Hours						Lecturers
401-0353-00L	Analysis 3	O	4 credits	2V+2U	2 hrs	Mon	08-10	HG G3		M. Iacobelli
401-0353-00 V	Analysis 3				2 hrs	Fri	10-12	CAB G56 CLA E4 ETZ E7 ETZ J91 ETZ K91 LEE C114 LFV E41 LFW B3		M. Iacobelli
401-0353-00 U	Analysis 3 <i>Groups are selected in myStudies.</i> <i>Exercises start in the second week of the semester.</i> <i>Es wird auch mindestens eine Übungsgruppe auf Deutsch angeboten.</i>				2 hrs					
401-0647-00L	Introduction to Mathematical Optimization	O	5 credits	2V+1U	2 hrs	Tue	16-18	HG F5		D. Adjashvili
401-0647-00 V	Introduction to Mathematical Optimization				1 hrs	Wed	12-13	HG D1.2		D. Adjashvili
401-0647-00 U	Introduction to Mathematical Optimization <i>Groups are selected in myStudies.</i> <i>Wed 12-13 or Wed 16-17</i>				1 hrs		16-17	IFW A36 ON LINE		
401-2673-00L	Numerical Methods for CSE	O	9 credits	2V+2U+4P	2 hrs	Fri	14-16	HG F1		R. Hiptmair
401-2673-00 V	Numerical Methods for CSE <i>This course is designed in a flipped classroom format based on video tutorials and supplemented by a weekly question-and-answer session, for which attendance is highly recommended.</i>				2 hrs	Mon	10-12	LFW B3 ML F40 NO D11		R. Hiptmair
401-2673-00 U	Numerical Methods for CSE <i>Groups are selected in myStudies.</i>				4 hrs					R. Hiptmair
401-2673-00 P	Numerical Methods for CSE <i>Self-study based on video tutorial and lecture notes.</i>									

### ►► Block G2

Number	Title	Type	ECTS	Hours						Lecturers
402-0811-00L	Programming Techniques for Scientific Simulations I	O	5 credits	4G	4 hrs	Thu	14-18	HCI J3		R. Käppeli
402-0811-00 G	Programming Techniques for Scientific Simulations I				4 hrs					
252-0061-00L	Systems Programming and Computer Architecture	O	7 credits	4V+2U	4 hrs	Tue	10-12	HG E7		T. Roscoe, A. Klimovic
252-0061-00 V	Systems Programming and Computer Architecture				4 hrs	Wed	10-12	NO C60		

252-0061-00 U	Systems Programming and Computer Architecture <i>Groups are selected in myStudies. The lecturers will communicate the exact lesson times of ONLINE courses.</i>	2 hrs	Wed	12-14	CAB G56 CAB G59 CHN D48 CHN G46 ETZ G91 CHN D42 CHN G22 ETZ G91 ETZ J91 ETZ K91 HG G26.3 LEE D105 ML H34.3 ON LINE	T. Roscoe, A. Klimovic
				14-16		

### ►► Block G3

*All course units within Block G3 are offered in the spring semester.*

### ►► Block G4

*All course units within Block G4 are offered in the spring semester.*

## ► Core Courses from Group I (Modules)

### ►► Module A

Number	Title	Type	ECTS	Hours			Lecturers
151-0107-20L	High Performance Computing for Science and Engineering (HPCSE) I	W	4 credits	4G			
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h Exercises: 14-16h</i>			4 hrs	Fri	12-14 14-16	ML H44 ML H44 P. Koumoutsakos, S. M. Martin

### ►► Module B

Number	Title	Type	ECTS	Hours			Lecturers
263-2800-00L	Design of Parallel and High-Performance Computing <i>Number of participants limited to 125.</i>	W	9 credits	3V+2U+3A			
263-2800-00 V	Design of Parallel and High-Performance Computing			3 hrs	Mon	13-16	CAB G11 T. Hoefler, M. Püschel
263-2800-00 U	Design of Parallel and High-Performance Computing			2 hrs	Thu	14-16	CHN C14 T. Hoefler, M. Püschel
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>			3 hrs			T. Hoefler, M. Püschel

## ► Core Courses from Group II

*No offering in the Autumn Semester.*

## ► Fields of Specialization

### ►► Astrophysics

Number	Title	Type	ECTS	Hours				Lecturers
401-7851-00L	<b>Theoretical Astrophysics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST512</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	10 credits	4V+2U				
401-7851-00 V	Theoretical Astrophysics (University of Zurich) <b>**Course at University of Zurich**</b>			4 hrs	Mon Tue 20.09.	10-12 10-12 10-12	UNI ZH. UNI ZH. UNI ZH.	University lecturers
401-7851-00 U	Theoretical Astrophysics (University of Zurich) <b>**Course at University of Zurich**</b>			2 hrs	Mon 20.09.	13-15 13-15	UNI ZH. UNI ZH.	University lecturers
401-7855-00L	<b>Computational Astrophysics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST245</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	W	6 credits	2V				
401-7855-00 V	Computational Astrophysics (University of Zurich) <b>**Course at University of Zurich**</b>			2 hrs	Tue	12-14	UNI ZH.	<b>L. M. Mayer</b>

### ►► Physics of the Atmosphere

Number	Title	Type	ECTS	Hours			Lecturers
701-0023-00L	Atmosphere	W	3 credits	2V			
701-0023-00 V	Atmosphäre			2 hrs	Tue	10-12	HG E3 E. M. Fischer, T. Peter



## ►► Chemistry

Number	Title	Type	ECTS	Hours				Lecturers
<b>529-0004-01L</b>	<b>Classical Simulation of (Bio)Molecular Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
529-0004-01 G	Classical Simulation of (Bio)Molecular Systems <i>2 hr lecture + 2 hr exercise session in our computer room; the students can choose between two alternative exercise sessions, either on Tuesdays 7:30-9:30 a.m. or on Thursdays 7:45-9:45 a.m.; the course was previously named CSCBP (the content remains the same, but the new title is more adequate)</i>			4 hrs	Tue	10-12	HCI D2	<b>P. H. Hünenberger</b> , J. Dolenc, S. Riniker

## ►► Fluid Dynamics

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0103-00L</b>	<b>Fluid Dynamics II</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>				
151-0103-00 V	Fluiddynamik II <i>In der 1. und 2. Semesterwoche findet am Dienstag 11-12 h jeweils eine Vorlesung, anstelle von Übungen, statt (Ort: ETF C 1).</i>			2 hrs	Mon	10-12	HG E7 ETF C1 ETF C1	<b>P. Jenny</b>
151-0103-00 U	Fluiddynamik II <i>Groups are selected in myStudies. Die Übungen beginnen in der 3. Semesterwoche.</i>			1 hrs	Tue	11-12	CAB G61 HG D1.1 IFW A36	<b>P. Jenny</b>

## ►► Systems and Control

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0103-00L</b>	<b>Control Systems</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60	<b>F. Dörfler</b>
227-0103-00 U	Regelsysteme			2 hrs	Tue	10-12	CHN C14 CHN C14	<b>F. Dörfler</b>
<b>227-0045-00L</b>	<b>Signals and Systems I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
227-0045-00 V	Signal- und Systemtheorie I			2 hrs	Thu	08-10	HG F1	<b>H. Bölcskei</b>
227-0045-00 U	Signal- und Systemtheorie I			2 hrs	Tue	16-18	ETZ E6 HG E22 LEE C104 LEE C114 LFV E41	<b>H. Bölcskei</b>

## ►► Robotics

Only one of the two course units  
263-5902-00L Computer Vision resp.  
227-0447-00L Image Analysis and Computer Vision  
may be recognised for credits. More precisely, it is also not allowed to have recognised one course unit for the Bachelor's and the other course unit for the Master's degree.

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0601-00L</b>	<b>Theory of Robotics and Mechatronics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	08-10	HG D1.2 ML E12	<b>P. Korba, S. Stoeter</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu	15-16	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann</b> , C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed	14-16	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann</b> , C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs	Thu Fri	16-18 14-16		<b>J. M. Buhmann</b> , C. Cotrini Jimenez
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-3210-00 V	Deep Learning			3 hrs	Wed	13-14	ML D28 ML D28	<b>F. Perez Cruz</b> , A. Lucchi
263-3210-00 U	Deep Learning			2 hrs	Mon	16-18	HG G5 ML D28	<b>F. Perez Cruz</b> , A. Lucchi
263-3210-00 A	Deep Learning			2 hrs	Wed	16-18		<b>F. Perez Cruz</b> , A. Lucchi
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>			3 hrs	Fri	10-12	ETA F5 ETF E1 ETA F5 ETF E1	<b>A. Krause</b>
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>			2 hrs	Thu	16-18	CHN C14	<b>A. Krause</b>
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs				<b>A. Krause</b>
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-5902-00 V	Computer Vision			3 hrs	Wed Thu	14-16 12-13	NO C60 HG G5	<b>M. Pollefeys</b> , S. Tang, F. Yu

263-5902-00 U	Computer Vision			1 hrs	Thu	13-14	CAB G51	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 A	Computer Vision			3 hrs	Fri	13-14	CAB G51	<b>M. Pollefeys, S. Tang, F. Yu</b>
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>				
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1	<b>L. Van Gool, E. Konukoglu, F. Yu</b>
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool, E. Konukoglu, F. Yu</b>
<b>151-0563-01L</b>	<b>Dynamic Programming and Optimal Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG F1	<b>R. D'Andrea</b>
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>			1 hrs	Wed	16-17 29.09.	CAB G51 HG F1 ML E12	<b>R. D'Andrea</b>
<b>151-0851-00L</b>	<b>Robot Dynamics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0851-00 V	Robot Dynamics ■			2 hrs	Tue	10-12	HG G5	<b>M. Hutter, R. Siegwart</b>
151-0851-00 U	Robot Dynamics ■			2 hrs	Wed	08-10	HG G5 IFW A36	<b>M. Hutter, R. Siegwart</b>

## ►► Physics

Number	Title	Type	ECTS	Hours				Lecturers
<b>402-0809-00L</b>	<b>Introduction to Computational Physics</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U</b>				
402-0809-00 V	Introduction to Computational Physics			2 hrs	Tue	10-12	HCI J7	<b>A. Adelmann</b>
402-0809-00 U	Introduction to Computational Physics			2 hrs	Tue	08-10	HCI J7	<b>A. Adelmann</b>

## ►► Computational Finance

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-3913-01L</b>	<b>Mathematical Foundations for Finance</b>	<b>W</b>	<b>4 credits</b>	<b>3V+2U</b>				
401-3913-01 V	Mathematical Foundations for Finance <i>**together with University of Zurich**</i>			3 hrs	Tue Thu	08-10 13-14	HG G5 HG G5	<b>B. Acciaio</b>
401-3913-01 U	Mathematical Foundations for Finance <i>Groups are selected in myStudies. **together with University of Zurich** Fri 8-10 or Fri 10-12</i>			2 hrs	Fri	08-10 10-12	HG D7.1 HG D3.2	<b>B. Acciaio</b>
<i>Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from Zentrum campus.</i>								
<b>401-4657-00L</b>	<b>Numerical Analysis of Stochastic Ordinary Differential Equations</b> <i>Alternative course title: "Computational Methods for Quantitative Finance: Monte Carlo and Sampling Methods"</i>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>				
401-4657-00 V	Numerical Analysis of Stochastic ODEs (Comp. Meth. Quant. Fin.: Monte Carlo and Sampling Methods)			3 hrs	Mon Wed	16-18 14-15	HG D1.2 HG D5.2	<b>A. Stein</b>
401-4657-00 U	Numerical Analysis of Stochastic ODEs (Comp. Meth. Quant. Fin.: Monte Carlo and Sampling Methods) <i>Groups are selected in myStudies.</i>			1 hrs	Wed	15-16	HG D5.2 LFW C1	<b>A. Stein</b>

## ►► Electromagnetics

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-2037-00L</b>	<b>Physical Modelling and Simulation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-2037-00 G	Physical Modelling and Simulation			4 hrs	Thu	08-12	ETZ E6	<b>J. Smajic</b>

## ►► Geophysics

*Recommended combinations:*  
 Subject 1 + Subject 2  
 Subject 1 + Subject 3  
 Subject 2 + Subject 3  
 Subject 3 + Subject 4  
 Subject 5 + Subject 6 + Subject 8  
 Subject 4 + Subject 5  
 Subject 7 + Subject 8

### ►►► Geophysics: Subject 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4007-00L</b>	<b>Continuum Mechanics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
651-4007-00 V	Continuum Mechanics			2 hrs	Wed	14-16	NO E51.1	<b>T. Gerya</b>

### ►►► Geophysics: Subject 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4241-00L</b>	<b>Numerical Modelling I and II: Theory and Applications</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				

651-4241-00 G	Numerical Modeling I: Theory	24s hrs	Mon/1	08-12	NO F39	<b>T. Gerya</b>
651-4241-01 G	Numerical Modeling II: Applications	28s hrs	Mon/2	08-12	NO F39	<b>T. Gerya</b>

### ►►► Geophysics: Subject 3

*Offered in the spring semester*

### ►►► Geophysics: Subject 4

*Offered in the spring semester*

### ►►► Geophysics: Subject 5

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4014-00L</b>	<b>Seismic Waves II</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
651-4014-00 G	Seismic Waves II			2 hrs	Tue	10-12	ML F40	<b>T. Diehl, F. Lanza, A. Obermann</b>
<i>Remark: former title until HS 2020: Tomographic Imaging</i>								

### ►►► Geophysics: Subject 6

*Offered in the spring semester*

### ►►► Geophysics: Subject 7

*Offered in the spring semester*

### ►►► Geophysics: Subject 8

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4273-00L</b>	<b>Numerical Modelling in Fortran</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
651-4273-00 V	Numerical Modelling in Fortran			2 hrs	Mon	16-18	NO C6	<b>P. Tackley</b>

### ►► Biology

Number	Title	Type	ECTS	Hours					Lecturers
636-0007-00L	Computational Systems Biology	W	6 credits	3V+2U					
636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>			3 hrs	Wed	14-17	HG D3.2	J. Stelling	
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>			2 hrs	Fri	10-12	HG D1.2	J. Stelling	
636-0706-00L	Spatio-Temporal Modelling in Biology	W	4 credits	3G					
636-0706-00 G	Spatio-Temporal Modelling in Biology <i>The lecture course will be offered as "inverted classroom". Lecture videos, slides, and scripts will be made available via Moodle, and students are expected to watch the videos ahead of the lecture. The 45-minute in person lecture time serves to answer student question where necessary, and to discuss application examples with students to deepen their understanding of the material. Similarly, problem sheets and solutions will be made available ahead of the tutorial. The tutorials serve to address further questions. As students from both Basel and Zurich participate in the course, lectures and tutorials will be offered in alternating weeks in Basel and Zurich. Remote participation is always possible. It is a new form of teaching. Feedback will be most welcome. Thursday 10-11 Q&amp;A Lecture (BS) Thursday 11-12 Tutorial (BS) Friday 11-12 Q&amp;A Lecture (ZH) Friday 12-13 Tutorial (ZH) Course starts: Friday, Sept. 24 in ZH</i>			3 hrs	Thu	10-11	BSD G207.1	D. Iber	
						11-12	BSD G207.1		
					Fri	11-12	HG D16.2		
						12-13	HG D16.2		
227-1037-00L	Introduction to Neuroinformatics	W	6 credits	2V+1U+1A					
227-1037-00 V	Introduction to Neuroinformatics			2 hrs	Thu	08-10	NO C60	V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens	
227-1037-00 U	Introduction to Neuroinformatics			1 hrs	Thu	10-11	NO C60	V. Mante, M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens	
227-1037-00 A	Introduction to Neuroinformatics <i>Self-study, no fixed presence required.</i>			1 hrs					V. Mante

### ► Electives

*In the 'electives' subcategory, at least two course units must be successfully completed.*

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0709-00L</b>	<b>Stochastic Methods for Engineers and Natural Scientists</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>				
151-0709-00 G	Stochastic Methods for Engineers and Natural Scientists			4 hrs	Wed	10-14	NO C6	<b>D. W. Meyer-Massetti</b>
<i>Lecture: 10-12 Exercises: 12-14</i>								

<b>151-0317-00L</b>	<b>Visualization, Simulation and Interaction W - Virtual Reality II</b>	<b>4 credits</b>	<b>3G</b>						
151-0317-00 G	Visualization, Simulation and Interaction - Virtual Reality II <i>Additional lecture hour in consultation with the students.</i>		3 hrs	Mon	12-15	CLA E4	<b>A. Kunz</b>		
<b>151-0833-00L</b>	<b>Applied Finite Element Analysis W</b>	<b>4 credits</b>	<b>2V+2U</b>						
151-0833-00 V	Applied Finite Element Analysis		2 hrs	Wed	10-12	ML F38	<b>B. Berisha, N. Manopulo</b>		
151-0833-00 U	Applied Finite Element Analysis <i>The exercises will start in the 2nd week of the Semester.</i>		2 hrs	Wed	14-16	IFW A36	<b>B. Berisha</b>		
<b>151-0529-00L</b>	<b>Computational Mechanics II: Nonlinear FEA W</b>	<b>4 credits</b>	<b>2V+2U</b>						
151-0529-00 V	Computational Mechanics II: Nonlinear FEA		2 hrs	Tue	10-12	LEE E101	<b>L. De Lorenzis</b>		
				28.09.	10-12	ETZ E8			
				26.10.	10-12	n/a			
151-0529-00 U	Computational Mechanics II: Nonlinear FEA		2 hrs	Tue	14-16	LEE E101	<b>L. De Lorenzis</b>		
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance Computing W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>						
	<i>Number of participants limited to 125.</i>								
263-2800-00 V	Design of Parallel and High-Performance Computing		3 hrs	Mon	13-16	CAB G11	<b>T. Hoefler, M. Püschel</b>		
263-2800-00 U	Design of Parallel and High-Performance Computing		2 hrs	Thu	14-16	CHN C14	<b>T. Hoefler, M. Püschel</b>		
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>		3 hrs				<b>T. Hoefler, M. Püschel</b>		
<b>227-0102-00L</b>	<b>Discrete Event Systems W</b>	<b>6 credits</b>	<b>4G</b>						
227-0102-00 G	Diskrete Ereignissysteme		4 hrs	Thu	14-16	HG D7.2	<b>R. Jacob, L. Vanbever, R. Wattenhofer</b>		
					16-18	HG D7.2			
<b>227-0116-00L</b>	<b>VLSI 1: HDL based design for FPGAs W</b>	<b>6 credits</b>	<b>5G</b>						
227-0116-00 G	VLSI 1: HDL based design for FPGAs		5 hrs	Tue	08-10	ETF C1	<b>F. K. Gürkaynak, L. Benini</b>		
				Wed	13-16	ETZ D61.1			
						ETZ D61.2			
						ETZ D96.1			
<b>227-0147-10L</b>	<b>VLSI 3: Full-Custom Digital Circuit Design W</b>	<b>6 credits</b>	<b>2V+3U</b>						
227-0147-10 V	VLSI 3: Full-Custom Digital Circuit Design <i>Permission from lecturers required for all students</i>		2 hrs	Mon	10-12	ETZ E8	<b>C. Studer, O. Castañeda Fernández</b>		
227-0147-10 U	VLSI 3: Full-Custom Digital Circuit Design <i>Permission from lecturers required for all students</i>		3 hrs	Thu	13-16	ETZ G91	<b>C. Studer, O. Castañeda Fernández</b>		
<b>227-0148-00L</b>	<b>VLSI III: Test and Fabrication of VLSI Circuits W</b>	<b>6 credits</b>	<b>4G</b>						
227-0148-00 G	VLSI III: Test and Fabrication of VLSI Circuits <i>Does not take place this semester. Will be offered in spring 2022 as "227-0148-00L VLSI4: Practical VLSI: measurement and testing"</i>		4 hrs				<b>L. Benini</b>		
<b>227-0417-00L</b>	<b>Information Theory I W</b>	<b>6 credits</b>	<b>4G</b>						
227-0417-00 G	Information Theory I		4 hrs	Wed	14-18	ETF C1	<b>A. Lapidoth</b>		
<b>227-0427-00L</b>	<b>Signal Analysis, Models, and Machine Learning W</b>	<b>6 credits</b>	<b>4G</b>						
	<i>This course was replaced by "Introduction to Estimation and Machine Learning" and "Advanced Signal Analysis, Modeling, and Machine Learning".</i>								
227-0427-00 G	Signal Analysis, Models, and Machine Learning <i>Does not take place this semester.</i>		4 hrs				<b>H.-A. Loeliger</b>		
<b>227-0971-00L</b>	<b>Computational Psychiatry W</b>	<b>3 credits</b>	<b>4S</b>						
	<i>Please note that participation in this course and the practical sessions requires additional registration at: <a href="http://www.translationalneuromodeling.org/cpcourse/">http://www.translationalneuromodeling.org/cpcourse/</a></i>								
227-0971-00 S	Computational Psychiatry <i>Block course from 13.09.2021 - 18.09.2021 8:00 - 18:30h</i>		60s hrs	13.09.-	08-18	ON LINE	<b>K. Stephan</b>		
				17.09.	08-18	ON LINE			
				18.09.					
<b>252-0417-00L</b>	<b>Randomized Algorithms and Probabilistic Methods W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>						
252-0417-00 V	Randomized Algorithms and Probabilistic Methods		3 hrs	Wed	08-09	ML D28	<b>A. Steger</b>		
				Thu	16-18	ML D28			
252-0417-00 U	Randomized Algorithms and Probabilistic Methods		2 hrs	Tue	14-16	HG D1.2	<b>A. Steger</b>		
					16-18	HG D1.2			
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>		4 hrs				<b>A. Steger</b>		
<b>252-0206-00L</b>	<b>Visual Computing W</b>	<b>8 credits</b>	<b>4V+3U</b>						
252-0206-00 V	Visual Computing		4 hrs	Tue	10-12	HG G3	<b>S. Coros, M. Pollefeys</b>		
				Thu	14-16	HG G3			
252-0206-00 U	Visual Computing		3 hrs	Tue	13-16	CHN G42	<b>S. Coros, M. Pollefeys</b>		
				Thu	09-12	IFW A36			
<b>252-0543-01L</b>	<b>Computer Graphics W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>						
252-0543-01 V	Computer Graphics <i>Does not take place this semester.</i>		3 hrs						

252-0543-01 U	Computer Graphics <i>Does not take place this semester.</i>		2 hrs					
252-0543-01 A	Computer Graphics <i>Does not take place this semester.</i>		2 hrs					
<b>252-0546-00L</b>	<b>Physically-Based Simulation in Computer Graphics</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U+1A</b>				
252-0546-00 V	Physically-Based Simulation in Computer Graphics		2 hrs	Tue	10-12	CAB G51	V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski	
252-0546-00 U	Physically-Based Simulation in Computer Graphics		1 hrs	Tue	16-17	CAB G51		
252-0546-00 A	Physically-Based Simulation in Computer Graphics		1 hrs					
<b>252-0834-00L</b>	<b>Information Systems for Engineers</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
252-0834-00 V	Information Systems for Engineers <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		2 hrs	Fri	14-16	HG E5	G. Fourny	
252-0834-00 U	Information Systems for Engineers <i>Groups are selected in myStudies.</i>		1 hrs	Fri	16-17	CAB G52 CAB G56 CAB G57 CAB G59 ON LINE ON LINE ON LINE	G. Fourny	
<b>401-3627-00L</b>	<b>High-Dimensional Statistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				
401-3627-00 V	High-Dimensional Statistics		2 hrs	Thu	08-10	CAB G61	P. L. Bühlmann	
<b>401-4623-00L</b>	<b>Time Series Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
401-4623-00 G	Time Series Analysis <i>Does not take place this semester.</i>		3 hrs				F. Balabdaoui	
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>				
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>		4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	R. Zenklusen	
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>		2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	R. Zenklusen	
<b>402-2203-01L</b>	<b>Classical Mechanics</b>	<b>W</b>	<b>7 credits</b>	<b>4V+2U</b>				
402-2203-01 V	Allgemeine Mechanik <i>Die erste Vorlesung (23.09.21) findet im HCI G 7 statt, danach im HPH G 3 bzw. HIL E 3.</i>		4 hrs	Mon Thu	12-14 14-16 23.09. 14-16	HPH G3 HIL E3 HCI G7	R. Renner	
402-2203-01 U	Allgemeine Mechanik <i>Die Übungen beginnen in der 2. Semesterwoche.</i>		2 hrs	Tue  Wed  Fri	08-10  10-12  14-16	CHN D42 CHN D48 CHN E46 HG E33.1 LFW C1 ML F40 ML J34.1 ML J34.3 ML J37.1 HIL C10.2 HPL D32 HPL D34	R. Renner	
<b>227-1033-00L</b>	<b>Neuromorphic Engineering I</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>  <i>Information for UZH students: Enrolment to this course unit only possible at ETH. No enrolment to module INI404 at UZH. Please mind the ETH enrolment deadlines for UZH students: <a href="https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html">https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>				
227-1033-00 V	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich** The lecturers will communicate the exact lesson times of ONLINE courses.</i>		2 hrs	Mon	14-16	ON LINE	T. Delbrück, G. Indiveri, S.-C. Liu	

227-1033-00 U	Neuromorphic Engineering I <i>Permission from lecturers required for all students **together with University of Zurich**</i>		3 hrs	by appt.					<b>T. Delbrück, G. Indiveri, S.-C. Liu</b>
	<i>Dates by arrangement.</i>								
<b>327-1201-00L</b>	<b>Transport Phenomena I</b>	<b>W</b>	<b>5 credits</b>	<b>4G</b>					
327-1201-00 G	Transport Phenomena I 14:00-15:00 Vorlesung 15:15-16:15 Übungen in zwei Gruppen 16:30-17:30 Vorlesung			4 hrs	Mon	14-18	HCP E47.3	<b>J. Vermant</b>	
	<i>see also Fields of Specialization</i>								
	<i>Electives (CSE Master)</i>								
<b>► Additional Electives from the Fields of Specialization (CSE Master)</b>									
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>	
<b>651-4053-05L</b>	<b>Boundary Layer Meteorology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
651-4053-05 G	Boundary Layer Meteorology			3 hrs	Fri	08-10 12-13	CAB G51 CAB G61	<b>M. Rotach, P. Calanca</b>	
<b>701-1221-00L</b>	<b>Dynamics of Large-Scale Atmospheric Flow</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
701-1221-00 V	Dynamics of Large-Scale Atmospheric Flow			2 hrs	Wed	09-11	CHN E42	<b>H. Wernli, L. Papritz</b>	
701-1221-00 U	Dynamics of Large-Scale Atmospheric Flow			1 hrs	Wed	11-12	CHN E42	<b>H. Wernli, L. Papritz</b>	
<b>529-0003-01L</b>	<b>Advanced Quantum Chemistry</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
529-0003-01 G	Advanced Quantum Chemistry <i>Lecture Tue 12:00-14:00, Exercise Classes Thursday 10:00-11:00 Vorlesung Di 12-14 Uhr, Uebung Do 10-11 Uhr</i>			3 hrs	Tue Thu	12-14 10-11	HCI J4 HCI F8	<b>M. Reiher, A. Baiardi</b>	
<b>151-0105-00L</b>	<b>Quantitative Flow Visualization</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0105-00 G	Quantitative Flow Visualization <i>This course will be offered for the last time in Autumn Semester 2021.</i>			3 hrs	Tue	10-13	ML H41.1	<b>T. Rösgen</b>	
<b>151-0109-00L</b>	<b>Turbulent Flows</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0109-00 V	Turbulent Flows			2 hrs	Thu	08-10	ML E12	<b>P. Jenny</b>	
151-0109-00 U	Turbulent Flows			1 hrs	Thu	13-14	HG D7.1	<b>P. Jenny</b>	
<b>151-0213-00L</b>	<b>Fluid Dynamics with the Lattice Boltzmann Method</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0213-00 G	Fluid Dynamics with the Lattice Boltzmann Method <i>This course will be taught in a hybrid of online and face-to-face classroom formats; students will be informed who can attend the class on campus or should join the live streaming class.</i>			3 hrs	Wed	10-13	IFW B42	<b>I. Karlin</b>	
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>					
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann, C. Cotrini Jimenez</b>	
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed Thu Fri	14-16 16-18 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann, C. Cotrini Jimenez</b>	
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				<b>J. M. Buhmann, C. Cotrini Jimenez</b>	
<b>636-0017-00L</b>	<b>Computational Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>					
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>			3 hrs	Mon Thu	16-18 18-19 12-13	BSA E46 HG D16.2 HG D16.2 BSA E46	<b>T. Vaughan</b>	
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>			2 hrs				<b>T. Vaughan</b>	
<b>► Case Studies</b>									
<b>401-3667-71L</b>	<b>Case Studies Seminar (Autumn Semester 2021)</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
401-3667-00 S	Case Studies Seminar <i>Attendance mandatory.</i>			2 hrs	Thu	16-18	HG D1.2 HG D16.2	<b>V. C. Gradinaru, R. Hiptmair, M. Reiher</b>	
<b>► GESS Science in Perspective</b>									
<b>►► Science in Perspective</b>									
	<i>see Science in Perspective: Type A: Enhancement of Reflection Capability</i>								

## ►► Science in Perspective

see Science in Perspective: Language  
Courses ETH/UZH

## ► Bachelor's Thesis

If you wish to have recognised 402-2000-00L Scientific Works in Physics instead of 401-2000-00L Scientific Works in Mathematics (as allowed for the CSE programme), take contact with the Study Administration Office ([www.math.ethz.ch/studiensekretariat](http://www.math.ethz.ch/studiensekretariat)) after having passed the performance assessment.

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-2000-00L</b>	<b>Scientific Works in Mathematics</b> <i>Target audience: Third year Bachelor students; Master students who cannot document to have received an adequate training in working scientifically.</i>	<b>O</b>	<b>0 credits</b>		
401-2000-00 V	Scientific Works in Mathematics <i>Groups are selected in myStudies. This mandatory course is offered twice per semester. Carry your ETH student card with you to prove your identity. The lecturers will communicate the exact lesson times of ONLINE courses.</i>			1s hrs 28.09. 18-19 14.12. 18-19	<b>M. Burger</b> ON LINE ON LINE
<b>401-2000-01L</b>	<b>Lunch Sessions – Thesis Basics for Mathematics Students</b> <i>Details and registration for the optional MathBib training course: <a href="https://www.math.ethz.ch/mathbib-schulungen">https://www.math.ethz.ch/mathbib-schulungen</a></i>	<b>Z</b>	<b>0 credits</b>		
401-2000-01 G	Lunch Sessions – Thesis Basics für Mathematik-Studierende <i>geplant 4., 5., 6. und 8. Oktober 2021 über Mittag. <a href="https://math.ethz.ch/library/training-courses/lunch-sessions.html">https://math.ethz.ch/library/training-courses/lunch-sessions.html</a></i>			4s hrs	Speakers
<b>402-2000-00L</b>	<b>Scientific Works in Physics</b> <i>Target audience: Master students who cannot document to have received an adequate training in working scientifically.</i>  <i>Directive <a href="https://www.ethz.ch/content/dam/ethz/mon/docs/weisungssammlung/files-en/declaration-of-originality.pdf">https://www.ethz.ch/content/dam/ethz/mon/docs/weisungssammlung/files-en/declaration-of-originality.pdf</a></i>	<b>W</b>	<b>0 credits</b>		
402-2000-00 V	Scientific Works in Physics <i>The lecture will be performed twice: on 28 October 2021 und 9 December 2021 from 16:45-18:30. Only one lecture has to be attended.</i>			2s hrs	<b>C. Eichler</b>
<b>401-3990-18L</b>	<b>Bachelor's Thesis</b> <i>Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics or 402-2000-00L Scientific Works in Physics is required. For more information, see <a href="http://www.math.ethz.ch/intranet/students/study-administration/theses.html">www.math.ethz.ch/intranet/students/study-administration/theses.html</a></i>	<b>O</b>	<b>14 credits</b>	<b>30D</b>	
401-3990-18 D	Bachelor-Arbeit (RW) ■			420s hrs by appt.	Supervisors

## ► Colloquia

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-5650-00L</b>	<b>Zurich Colloquium in Applied and Computational Mathematics</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>	
401-5650-00 K	Zurich Colloquium in Applied and Computational Mathematics <i>**together with University of Zurich** More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html#/details/2021/003/SM/50027666">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html#/details/2021/003/SM/50027666</a></i>			1 hrs Wed 16-17	<b>R. Abgrall, R. Alaifari, H. Ammari, R. Hiptmair, S. Mishra, S. Sauter</b> HG E1.2

## Computational Science and Engineering Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.



# Computational Science and Engineering Master

## ► Core Courses

In the 'core courses' subcategory, at least two course units must be successfully completed.

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-4671-00L</b>	<b>Advanced Numerical Methods for CSE</b>	<b>W</b>	<b>9 credits</b>	<b>4V+2U+1P</b>	
401-4671-00 V	Advanced Numerical Methods for CSE			4 hrs Mon 16-18 HG F1	<b>S. Mishra</b>
401-4671-00 U	Advanced Numerical Methods for CSE <i>Groups are selected in myStudies. Thu 8-10 or Fri 14-16</i>			2 hrs Tue 16-18 HG F1 Thu 08-10 HG F26.5 Fri 14-16 LEE C104	<b>S. Mishra</b>
401-4671-00 P	Advanced Numerical Methods for CSE			1 hrs	<b>S. Mishra</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>	
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs Thu 15-16 ETA F5 Fri 08-10 ETF E1 HG F3	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning			2 hrs Wed 14-16 CAB G61 Thu 16-18 CAB G61 Fri 16-18 ML F34 14-16 CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs	<b>J. M. Buhmann,</b> C. Cotrini Jimenez

## ► Fields of Specialization

### ►► Astrophysics

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-7851-00L</b>	<b>Theoretical Astrophysics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST512</i>	<b>W</b>	<b>10 credits</b>	<b>4V+2U</b>	
401-7851-00 V	Theoretical Astrophysics (University of Zurich) <b>**Course at University of Zurich**</b>			4 hrs Mon 10-12 UNI ZH. Tue 10-12 UNI ZH. 20.09. 10-12 UNI ZH.	University lecturers
401-7851-00 U	Theoretical Astrophysics (University of Zurich) <b>**Course at University of Zurich**</b>			2 hrs Mon 13-15 UNI ZH. 20.09. 13-15 UNI ZH.	University lecturers
<b>401-7855-00L</b>	<b>Computational Astrophysics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: AST245</i>	<b>W</b>	<b>6 credits</b>	<b>2V</b>	
401-7855-00 V	Computational Astrophysics (University of Zurich) <b>**Course at University of Zurich**</b>			2 hrs Tue 12-14 UNI ZH.	<b>L. M. Mayer</b>

### ►► Physics of the Atmosphere

Number	Title	Type	ECTS	Hours	Lecturers
<b>701-0023-00L</b>	<b>Atmosphere</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>	
701-0023-00 V	Atmosphäre			2 hrs Tue 10-12 HG E3	<b>E. M. Fischer,</b> T. Peter
<b>651-4053-05L</b>	<b>Boundary Layer Meteorology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>	
651-4053-05 G	Boundary Layer Meteorology			3 hrs Fri 08-10 CAB G51 12-13 CAB G61	<b>M. Rotach,</b> P. Calanca
<b>701-1221-00L</b>	<b>Dynamics of Large-Scale Atmospheric Flow</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>	
701-1221-00 V	Dynamics of Large-Scale Atmospheric Flow			2 hrs Wed 09-11 CHN E42	<b>H. Wernli,</b> L. Papritz
701-1221-00 U	Dynamics of Large-Scale Atmospheric Flow			1 hrs Wed 11-12 CHN E42	<b>H. Wernli,</b> L. Papritz
<b>401-5930-00L</b>	<b>Seminar in Physics of the Atmosphere for CSE</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>	
401-5930-00 S	Seminar in Physics of the Atmosphere for CSE <i>Diese Lehrveranstaltung wird zeitlich und organisatorisch mit der LV 701-1211-01 S "Master Seminar: Atmosphere and Climate 1" koordiniert.</i>			2 hrs Mon 08-10 ML F40	<b>H. Joos,</b> C. Schär

### ►► Chemistry

Number	Title	Type	ECTS	Hours	Lecturers
<b>529-0004-01L</b>	<b>Classical Simulation of (Bio)Molecular Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>	

529-0004-01 G	Classical Simulation of (Bio)Molecular Systems <i>2 hr lecture + 2 hr exercise session in our computer room; the students can choose between two alternative exercise sessions, either on Tuesdays 7:30-9:30 a.m. or on Thursdays 7:45-9:45 a.m.; the course was previously named CSCBP (the content remains the same, but the new title is more adequate)</i>		4 hrs	Tue	10-12	HCI D2	<b>P. H. Hünenberger</b> , J. Dolenc, S. Riniker
<b>529-0003-01L</b>	<b>Advanced Quantum Chemistry</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>			
529-0003-01 G	Advanced Quantum Chemistry <i>Lecture Tue 12:00-14:00, Exercise Classes Thursday 10:00-11:00 Vorlesung Di 12-14 Uhr, Uebung Do 10-11 Uhr</i>		3 hrs	Tue Thu	12-14 10-11	HCI J4 HCI F8	<b>M. Reiher</b> , A. Baiardi
<b>401-5940-00L</b>	<b>Seminar in Chemistry for CSE</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>			
401-5940-00 S	Seminar in Chemistry for CSE		2 hrs	by appt.			<b>P. H. Hünenberger</b> , M. Reiher

## ►► Fluid Dynamics

One of the course units  
151-0103-00L Fluid Dynamics II  
151-0109-00L Turbulent Flows  
is compulsory.  
Students able to follow courses in German are advised to choose 151-0103-00L Fluid Dynamics II.

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0103-00L</b>	<b>Fluid Dynamics II</b>	<b>O</b>	<b>3 credits</b>	<b>2V+1U</b>				
151-0103-00 V	Fluidodynamik II <i>In der 1. und 2. Semesterwoche findet am Dienstag 11-12 h jeweils eine Vorlesung, anstelle von Übungen, statt (Ort: ETF C 1).</i>			2 hrs	Mon 21.09. 28.09.	10-12 11-12 11-12	HG E7 ETF C1 ETF C1	<b>P. Jenny</b>
151-0103-00 U	Fluidodynamik II <i>Groups are selected in myStudies. Die Übungen beginnen in der 3. Semesterwoche.</i>			1 hrs	Tue	11-12	CAB G61 HG D1.1 IFW A36	<b>P. Jenny</b>
<b>151-0109-00L</b>	<b>Turbulent Flows</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0109-00 V	Turbulent Flows			2 hrs	Thu	08-10	ML E12	<b>P. Jenny</b>
151-0109-00 U	Turbulent Flows			1 hrs	Thu	13-14	HG D7.1	<b>P. Jenny</b>
<b>151-0532-00L</b>	<b>Nonlinear Dynamics and Chaos I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0532-00 V	Nonlinear Dynamics and Chaos I			2 hrs	Wed	10-12	LFW B1	<b>G. Haller</b>
151-0532-00 U	Nonlinear Dynamics and Chaos I			2 hrs	Tue	16-18	ML F39	<b>G. Haller</b>
<b>151-0105-00L</b>	<b>Quantitative Flow Visualization</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0105-00 G	Quantitative Flow Visualization <i>This course will be offered for the last time in Autumn Semester 2021.</i>			3 hrs	Tue	10-13	ML H41.1	<b>T. Rösgen</b>
<b>151-0213-00L</b>	<b>Fluid Dynamics with the Lattice Boltzmann Method</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0213-00 G	Fluid Dynamics with the Lattice Boltzmann Method <i>This course will be taught in a hybrid of online and face-to-face classroom formats; students will be informed who can attend the class on campus or should join the live streaming class.</i>			3 hrs	Wed	10-13	IFW B42	<b>I. Karlin</b>
<b>401-5950-00L</b>	<b>Seminar in Fluid Dynamics for CSE</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-5950-00 S	Seminar in Fluid Dynamics for CSE ■ <i>Definition of a project after individual consultation with Prof. Jenny or Prof. Rösgen</i>			2 hrs	by appt.			<b>P. Jenny, T. Rösgen</b>

## ►► Systems and Control

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0103-00L</b>	<b>Control Systems</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60	<b>F. Dörfler</b>
227-0103-00 U	Regelsysteme			2 hrs	Tue 21.09.	10-12 12-14	CHN C14 CHN C14	<b>F. Dörfler</b>
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
227-0225-00 G	Linear System Theory			5 hrs	Mon Wed 22.09.	09-12 10-12 10-12	IFW A36 ETZ E6 HG D1.1	<b>A. Iannelli</b>
<b>151-0575-01L</b>	<b>Signals and Systems</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0575-01 V	Signals and Systems <i>The lecture will start in the 2nd week of the Semester.</i>			2 hrs	Thu	14-16	ETF C1	<b>A. Carron</b>
151-0575-01 U	Signals and Systems <i>The exercise will start in the 3rd week of the Semester.</i>			2 hrs	Thu	16-18	ETF C1	<b>A. Carron</b>
<b>151-0563-01L</b>	<b>Dynamic Programming and Optimal Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester. Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG F1	<b>R. D'Andrea</b>
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>			1 hrs	Wed 29.09.	16-17 16-17	CAB G51 HG F1 ML E12	<b>R. D'Andrea</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				

252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3</i> <i>Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>	3 hrs	Thu	15-16	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning	2 hrs	Wed	14-16 16-18	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>	4 hrs	Thu Fri	16-18 14-16		<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>401-5850-00L</b>	<b>Seminar in Systems and Control for CSE W</b>	<b>4 credits</b>	<b>2S</b>			
401-5850-00 S	Seminar in Systems and Control for CSE	2 hrs	by appt.			<b>J. Lygeros</b>

## ►► Robotics

Only one of the two course units  
263-5902-00L Computer Vision resp.  
227-0447-00L Image Analysis and Computer Vision  
may be recognised for credits. More precisely, it is also not allowed to have recognised one course unit for the Bachelor's and the other course unit for the Master's degree.

Number	Title	Type	ECTS	Hours			Lecturers
<b>151-0601-00L</b>	<b>Theory of Robotics and Mechatronics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	08-10 10-11	<b>P. Korba, S. Stoeter</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>			
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3</i> <i>Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed	14-16 16-18	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs	Thu Fri	16-18 14-16	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>263-3210-00L</b>	<b>Deep Learning</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
263-3210-00 V	Deep Learning			3 hrs	Wed Thu	13-14 14-16	<b>F. Perez Cruz,</b> A. Lucchi
263-3210-00 U	Deep Learning			2 hrs	Mon Wed	16-18 16-18	<b>F. Perez Cruz,</b> A. Lucchi
263-3210-00 A	Deep Learning			2 hrs			<b>F. Perez Cruz,</b> A. Lucchi
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>			3 hrs	Fri	10-12 13-14	<b>A. Krause</b>
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>			2 hrs	Thu	16-18	<b>A. Krause</b>
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs			<b>A. Krause</b>
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>			
263-5902-00 V	Computer Vision			3 hrs	Wed Thu	14-16 12-13	<b>M. Pollefeys, S. Tang,</b> F. Yu
263-5902-00 U	Computer Vision			1 hrs	Thu Fri	13-14 13-14	<b>M. Pollefeys, S. Tang,</b> F. Yu
263-5902-00 A	Computer Vision			3 hrs			<b>M. Pollefeys, S. Tang,</b> F. Yu
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>			
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	<b>L. Van Gool,</b> E. Konukoglu, F. Yu
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	<b>L. Van Gool,</b> E. Konukoglu, F. Yu
<b>151-0563-01L</b>	<b>Dynamic Programming and Optimal Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>			
151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester.</i> <i>Online lecture: This lecture will primarily take place online.</i> <i>Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	<b>R. D'Andrea</b>
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>			1 hrs	Wed	16-17 29.09. 16-17	<b>R. D'Andrea</b>
<b>151-0851-00L</b>	<b>Robot Dynamics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>			
151-0851-00 V	Robot Dynamics ■			2 hrs	Tue	10-12	<b>M. Hutter,</b> R. Siegwart
151-0851-00 U	Robot Dynamics ■			2 hrs	Wed	08-10	<b>M. Hutter,</b> R. Siegwart
<b>401-5860-00L</b>	<b>Seminar in Robotics for CSE</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>			

401-5860-00 S	Seminar in Robotics for CSE <i>The study plan will be discussed individually. Please contact the responsible lecturer if you are interested in this course, see <a href="https://asl.ethz.ch/education/cse-robotics.html">https://asl.ethz.ch/education/cse-robotics.html</a> for further details.</i>	2 hrs	E. Konukoglu, R. Siegwart
---------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	---------------------------

## ►► Physics

*For the field of specialization 'Physics' basic knowledge in quantum mechanics is required.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>402-0809-00L</b>	<b>Introduction to Computational Physics</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U</b>					
402-0809-00 V	Introduction to Computational Physics			2 hrs	Tue	10-12	HCI J7		<b>A. Adelmann</b>
402-0809-00 U	Introduction to Computational Physics			2 hrs	Tue	08-10	HCI J7		<b>A. Adelmann</b>
<b>402-0205-00L</b>	<b>Quantum Mechanics I</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U</b>					
402-0205-00 V	Quantenmechanik I			3 hrs	Tue	10-12	HPV G4		<b>M. Gaberdiel</b>
					Thu	12-13	HPV G4		
402-0205-00 U	Quantenmechanik I <i>Do 10-12 oder Do 16-18</i>			2 hrs	Thu	10-12	HCI H8.1 HIT F31.2 HIT K52 HPK D24.2 HIL B21 HIL E10.1 HIT K51 HPK D24.2		<b>M. Gaberdiel</b>
<b>402-0461-00L</b>	<b>Quantum Information Theory</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U</b>					
402-0461-00 V	Quantum Information Theory			3 hrs	Wed	10-12	HPV G4		<b>P. Kammerlander</b>
					Thu	14-15	HPV G4		
402-0461-00 U	Quantum Information Theory			1 hrs	Thu	15-16	HCI J4 HPV G4		<b>P. Kammerlander</b>
<b>402-0777-00L</b>	<b>Particle Accelerator Physics and Modeling I</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U</b>					
402-0777-00 V	Particle Accelerator Physics and Modeling I			2 hrs	Fri	10-12	HIT J52		<b>A. Adelmann</b>
402-0777-00 U	Particle Accelerator Physics and Modeling I			1 hrs	Fri	13-14	HIT J51		<b>A. Adelmann</b>
<b>401-5810-00L</b>	<b>Seminar in Physics for CSE</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>					
401-5810-00 S	Seminar in Physics for CSE			2 hrs	by appt.				<b>A. Adelmann</b>

## ►► Computational Finance

Number	Title	Type	ECTS	Hours					Lecturers
401-3913-01L	Mathematical Foundations for Finance	W	4 credits	3V+2U					
401-3913-01 V	Mathematical Foundations for Finance <i>**together with University of Zurich**</i>			3 hrs	Tue	08-10	HG G5	B. Acciaio	
					Thu	13-14	HG G5		
401-3913-01 U	Mathematical Foundations for Finance <i>Groups are selected in myStudies. **together with University of Zurich** Fri 8-10 or Fri 10-12</i>			2 hrs	Fri	08-10	HG D7.1 HG D3.2	B. Acciaio	
<i>Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from Zentrum campus.</i>									
401-4657-00L	Numerical Analysis of Stochastic Ordinary Differential Equations <i>Alternative course title: "Computational Methods for Quantitative Finance: Monte Carlo and Sampling Methods"</i>	W	6 credits	3V+1U					
401-4657-00 V	Numerical Analysis of Stochastic ODEs (Comp. Meth. Quant. Fin.: Monte Carlo and Sampling Methods)			3 hrs	Mon	16-18	HG D1.2	A. Stein	
					Wed	14-15	HG D5.2		
401-4657-00 U	Numerical Analysis of Stochastic ODEs (Comp. Meth. Quant. Fin.: Monte Carlo and Sampling Methods) <i>Groups are selected in myStudies.</i>			1 hrs	Wed	15-16	HG D5.2 LFW C1	A. Stein	
401-8905-00L	Financial Engineering (University of Zurich) <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: MFOEC200</i>	W	6 credits	4G					
<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>									
401-8905-00 G	Financial Engineering (University of Zurich) <i>**Course at University of Zurich**</i>			4 hrs					University lecturers
363-0561-00L	Financial Market Risks	W	3 credits	2G					
363-0561-00 G	Financial Market Risks <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Mon	10-12	ML H44	D. Sornette	
401-5820-00L	Seminar in Computational Finance for CSE	W	4 credits	2S					
401-5820-00 S	Seminar in Computational Finance for CSE <i>Please contact Prof. Teichmann if you are interested in attending.</i>			2 hrs	by appt.				J. Teichmann

## ►► Electromagnetics

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0110-00L</b>	<b>Electromagnetic Waves: Materials, Effects, and Antennas</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0110-00 V	Electromagnetic Waves: Materials, Effects, and Antennas			2 hrs	Wed	14-16	ETZ E8	<b>U. Koch</b>
227-0110-00 U	Electromagnetic Waves: Materials, Effects, and Antennas			2 hrs	Wed	16-18	ETZ E8	<b>U. Koch</b>
<b>227-2037-00L</b>	<b>Physical Modelling and Simulation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-2037-00 G	Physical Modelling and Simulation			4 hrs	Thu	08-12	ETZ E6	<b>J. Smajic</b>
<b>227-0301-00L</b>	<b>Optical Communication Fundamentals</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1P</b>				
227-0301-00 V	Optical Communication Fundamentals			2 hrs	Tue	14-16	ETZ K91	<b>J. Leuthold</b>
227-0301-00 U	Optical Communication Fundamentals			1 hrs	Tue	16-17	ETZ K91	<b>J. Leuthold</b>
227-0301-00 P	Optical Communication Fundamentals			1 hrs	Tue	17-18	ETZ K91	<b>J. Leuthold</b>
<b>401-4785-00L</b>	<b>Mathematical and Computational Methods in Photonics</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>				
401-4785-00 G	Mathematical and Computational Methods in Photonics			4 hrs	Mon Wed	10-12 10-12	HG G26.5 HG G26.5	<b>H. Ammari</b>
<b>401-5870-00L</b>	<b>Seminar in Electromagnetics for CSE</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-5870-00 S	Seminar in Electromagnetics for CSE			2 hrs	by appt.			<b>J. Smajic, J. Leuthold</b>

## ►► Geophysics

*Recommended combinations:*

*Subject 2 + Subject 5 + Subject 6 + Subject 7*

*Subject 2 + Subject 4 + Subject 5 + Subject 6 + Subject 8*

*Subject 2 + Subject 5 + Subject 6 + (Subject 1 or Subject 3)*

### ►►► Geophysics: Subject 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4007-00L</b>	<b>Continuum Mechanics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
651-4007-00 V	Continuum Mechanics			2 hrs	Wed	14-16	NO E51.1	<b>T. Gerya</b>

### ►►► Geophysics: Subject 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4241-00L</b>	<b>Numerical Modelling I and II: Theory and Applications</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
651-4241-00 G	Numerical Modeling I: Theory			24s hrs	Mon/1	08-12	NO F39	<b>T. Gerya</b>
651-4241-01 G	Numerical Modeling II: Applications			28s hrs	Mon/2	08-12	NO F39	<b>T. Gerya</b>

### ►►► Geophysics: Subject 3

*Offered in the spring semester*

### ►►► Geophysics: Subject 4

*Offered in the spring semester*

### ►►► Geophysics: Subject 5

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4014-00L</b>	<b>Seismic Waves II</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
651-4014-00 G	Seismic Waves II			2 hrs	Tue	10-12	ML F40	<b>T. Diehl, F. Lanza, A. Obermann</b>

*Remark: former title until HS 2020: Tomographic Imaging*

### ►►► Geophysics: Subject 6

*Offered in the spring semester*

### ►►► Geophysics: Subject 7

*Offered in the spring semester*

### ►►► Geophysics: Subject 8

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4273-00L</b>	<b>Numerical Modelling in Fortran</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
651-4273-00 V	Numerical Modelling in Fortran			2 hrs	Mon	16-18	NO C6	<b>P. Tackley</b>

### ►►► Geophysics: Seminar

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-5880-00L</b>	<b>Seminar in Geophysics for CSE</b>	<b>W</b>	<b>4 credits</b>	<b>2S</b>				
401-5880-00 S	Seminar in Geophysics for CSE			2 hrs	by appt.			<b>T. Gerya, P. Tackley</b>

## ►► Biology

Number	Title	Type	ECTS	Hours				Lecturers
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>				

636-0007-00 V	Computational Systems Biology <i>Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&amp;A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&amp;A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.</i>	3 hrs	Wed	14-17	HG D3.2	<b>J. Stelling</b>
636-0007-00 U	Computational Systems Biology <i>Tutorials on Fridays 10:15-12:00 will be held via Zoom.</i>	2 hrs	Fri	10-12	HG D1.2	<b>J. Stelling</b>
<b>636-0017-00L</b>	<b>Computational Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>		
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>	3 hrs	Mon	16-18	BSA E46 HG D16.2	<b>T. Vaughan</b>
			Thu	18-19 12-13	HG D16.2 BSA E46	
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>	2 hrs				<b>T. Vaughan</b>
<b>636-0706-00L</b>	<b>Spatio-Temporal Modelling in Biology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
636-0706-00 G	Spatio-Temporal Modelling in Biology <i>The lecture course will be offered as "inverted classroom". Lecture videos, slides, and scripts will be made available via Moodle, and students are expected to watch the videos ahead of the lecture. The 45-minute in person lecture time serves to answer student question where necessary, and to discuss application examples with students to deepen their understanding of the material. Similarly, problem sheets and solutions will be made available ahead of the tutorial. The tutorials serve to address further questions. As students from both Basel and Zurich participate in the course, lectures and tutorials will be offered in alternating weeks in Basel and Zurich. Remote participation is always possible. It is a new form of teaching. Feedback will be most welcome. Thursday 10-11 Q&amp;A Lecture (BS) Thursday 11-12 Tutorial (BS) Friday 11-12 Q&amp;A Lecture (ZH) Friday 12-13 Tutorial (ZH) Course starts: Friday, Sept. 24 in ZH</i>	3 hrs	Thu	10-11 11-12	BSD G207.1 BSD G207.1	<b>D. Iber</b>
			Fri	11-12 12-13	HG D16.2 HG D16.2	
<b>227-0421-00L</b>	<b>Deep Learning in Artificial and Biological Neuronal Networks</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
227-0421-00 G	Deep Learning in Artificial and Biological Neuronal Networks	3 hrs	Wed	09-12	ML F34	<b>B. Grewe</b>
<b>227-1037-00L</b>	<b>Introduction to Neuroinformatics</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+1A</b>		
227-1037-00 V	Introduction to Neuroinformatics	2 hrs	Thu	08-10	NO C60	<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 U	Introduction to Neuroinformatics	1 hrs	Thu	10-11	NO C60	<b>V. Mante</b> , M. Cook, B. Grewe, G. Indiveri, D. Kiper, W. von der Behrens
227-1037-00 A	Introduction to Neuroinformatics <i>Self-study, no fixed presence required.</i>	1 hrs				<b>V. Mante</b>

## ► Electives

*In the 'electives' subcategory, at least two course units must be successfully completed.*

Number	Title	Type	ECTS	Hours	Lecturers	
<b>101-0250-00L</b>	<b>Solving Partial Differential Equations in parallel on GPUs</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
101-0250-00 G	Solving Partial Differential Equations in parallel on GPUs	3 hrs	Tue	13-16	HCI E8	<b>L. Räss</b> , S. Omlin, M. Werder
<b>151-0709-00L</b>	<b>Stochastic Methods for Engineers and Natural Scientists</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>		
151-0709-00 G	Stochastic Methods for Engineers and Natural Scientists <i>Lecture: 10-12 Exercises: 12-14</i>	4 hrs	Wed	10-14	NO C6	<b>D. W. Meyer-Masseti</b>
<b>151-0317-00L</b>	<b>Visualization, Simulation and Interaction - Virtual Reality II</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
151-0317-00 G	Visualization, Simulation and Interaction - Virtual Reality II <i>Additional lecture hour in consultation with the students.</i>	3 hrs	Mon	12-15	CLA E4	<b>A. Kunz</b>
<b>151-0371-00L</b>	<b>Advanced Model Predictive Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>		
	<i>Number of participants limited to 40.</i>					
151-0371-00 V	Advanced Model Predictive Control <i>The lecture will take place on 30.09.21 in HG D 7.2.</i>	2 hrs	Thu	10-12 30.09. 10-12	HG D1.1 HG D7.2	<b>M. Zeilinger</b> , A. Carron, L. Hewing, J. Köhler

151-0371-00 U	Advanced Model Predictive Control <i>The lecture will take place on 30.09.21 in HG D 7.2.</i>		1 hrs	Thu 30.09.	12-13 12-13	HG D1.1 HG D7.2	<b>M. Zeilinger</b> , A. Carron, L. Hewing, J. Köhler
<b>151-0833-00L</b>	<b>Applied Finite Element Analysis</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>			
151-0833-00 V	Applied Finite Element Analysis		2 hrs	Wed	10-12	ML F38	<b>B. Berisha</b> , N. Manopulo
151-0833-00 U	Applied Finite Element Analysis <i>The exercises will start in the 2nd week of the Semester.</i>		2 hrs	Wed	14-16	IFW A36	<b>B. Berisha</b>
<b>151-0529-00L</b>	<b>Computational Mechanics II: Nonlinear FEA</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>			
151-0529-00 V	Computational Mechanics II: Nonlinear FEA		2 hrs	Tue 28.09. 26.10.	10-12 10-12 10-12	LEE E101 ETZ E8 n/a	<b>L. De Lorenzis</b>
151-0529-00 U	Computational Mechanics II: Nonlinear FEA		2 hrs	Tue	14-16	LEE E101	<b>L. De Lorenzis</b>
<b>263-2800-00L</b>	<b>Design of Parallel and High-Performance Computing</b> <i>Number of participants limited to 125.</i>	<b>W</b>	<b>9 credits</b>	<b>3V+2U+3A</b>			
263-2800-00 V	Design of Parallel and High-Performance Computing		3 hrs	Mon	13-16	CAB G11	<b>T. Hoefler</b> , <b>M. Püschel</b>
263-2800-00 U	Design of Parallel and High-Performance Computing		2 hrs	Thu	14-16	CHN C14	<b>T. Hoefler</b> , <b>M. Püschel</b>
263-2800-00 A	Design of Parallel and High-Performance Computing <i>Project Work, no fixed presence required.</i>		3 hrs				<b>T. Hoefler</b> , <b>M. Püschel</b>
<b>263-5905-00L</b>	<b>Mixed Reality</b>	<b>W</b>	<b>5 credits</b>	<b>3G+1A</b>			
263-5905-00 G	Mixed Reality		3 hrs	Mon	10-13	CAB G11	<b>I. Armeni</b> , <b>F. Bogo</b> , <b>M. Pollefeys</b>
263-5905-00 A	Mixed Reality		1 hrs				<b>I. Armeni</b> , <b>F. Bogo</b> , <b>M. Pollefeys</b>
<b>227-0102-00L</b>	<b>Discrete Event Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0102-00 G	Diskrete Ereignissysteme		4 hrs	Thu	14-16 16-18	HG D7.2 HG D7.2	<b>R. Jacob</b> , <b>L. Vanbever</b> , <b>R. Wattenhofer</b>
<b>227-0116-00L</b>	<b>VLSI 1: HDL based design for FPGAs</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>			
227-0116-00 G	VLSI 1: HDL based design for FPGAs		5 hrs	Tue Wed	08-10 13-16	ETF C1 ETZ D61.1 ETZ D61.2 ETZ D96.1	<b>F. K. Gürkaynak</b> , L. Benini
<b>227-0147-10L</b>	<b>VLSI 3: Full-Custom Digital Circuit Design</b>	<b>W</b>	<b>6 credits</b>	<b>2V+3U</b>			
227-0147-10 V	VLSI 3: Full-Custom Digital Circuit Design <i>Permission from lecturers required for all students</i>		2 hrs	Mon	10-12	ETZ E8	<b>C. Studer</b> , O. Castañeda Fernández
227-0147-10 U	VLSI 3: Full-Custom Digital Circuit Design <i>Permission from lecturers required for all students</i>		3 hrs	Thu	13-16	ETZ G91	<b>C. Studer</b> , O. Castañeda Fernández
<b>227-0148-00L</b>	<b>VLSI III: Test and Fabrication of VLSI Circuits</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0148-00 G	VLSI III: Test and Fabrication of VLSI Circuits <i>Does not take place this semester. Will be offered in spring 2022 as "227-0148-00L VLSI4: Practical VLSI: measurement and testing"</i>		4 hrs				L. Benini
<b>227-0417-00L</b>	<b>Information Theory I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0417-00 G	Information Theory I		4 hrs	Wed	14-18	ETF C1	<b>A. Lapidoth</b>
<b>227-0427-00L</b>	<b>Signal Analysis, Models, and Machine Learning</b> <i>This course was replaced by "Introduction to Estimation and Machine Learning" and "Advanced Signal Analysis, Modeling, and Machine Learning".</i>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0427-00 G	Signal Analysis, Models, and Machine Learning <i>Does not take place this semester.</i>		4 hrs				<b>H.-A. Loeliger</b>
<b>227-0124-00L</b>	<b>Embedded Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
227-0124-00 G	Embedded Systems <i>Exercises in groups.</i>		4 hrs	Mon Wed Fri	14-16 16-18 16-18	ETF C1 ETZ D61.1 ETZ D96.1 ETF E1 ETZ D61.1 ETZ D96.1	<b>L. Thiele</b> , M. Magno
<b>227-0971-00L</b>	<b>Computational Psychiatry</b> <i>Please note that participation in this course and the practical sessions requires additional registration at: <a href="http://www.translationalneuromodeling.org/cpcourse/">http://www.translationalneuromodeling.org/cpcourse/</a></i>	<b>W</b>	<b>3 credits</b>	<b>4S</b>			
227-0971-00 S	Computational Psychiatry <i>Block course from 13.09.2021 - 18.09.2021 8:00 - 18:30h</i>		60s hrs	13.09.- 17.09. 18.09.	08-18 08-18	ON LINE ON LINE	<b>K. Stephan</b>
<b>252-0237-00L</b>	<b>Concepts of Object-Oriented Programming</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
252-0237-00 V	Concepts of Object-Oriented Programming <i>Online lecture: This lecture will take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>		3 hrs	Thu	09-12	HG E1.1	<b>P. Müller</b>

252-0237-00 U	Concepts of Object-Oriented Programming		2 hrs	Fri	08-10	CAB G57 CHN D42	P. Müller
					10-12	CAB G57 CHN D42 CHN D44	
252-0237-00 A	Concepts of Object-Oriented Programming		2 hrs				P. Müller
<b>252-0417-00L</b>	<b>Randomized Algorithms and Probabilistic Methods</b>	<b>W</b>	<b>10 credits</b>				
252-0417-00 V	Randomized Algorithms and Probabilistic Methods		3 hrs	Wed	08-09	ML D28	A. Steger
				Thu	16-18	ML D28	
252-0417-00 U	Randomized Algorithms and Probabilistic Methods		2 hrs	Tue	14-16	HG D1.2	A. Steger
					16-18	HG D1.2	
252-0417-00 A	Randomized Algorithms and Probabilistic Methods <i>Project Work, no fixed presence required.</i>		4 hrs				A. Steger
<b>252-0543-01L</b>	<b>Computer Graphics</b>	<b>W</b>	<b>8 credits</b>				
252-0543-01 V	Computer Graphics <i>Does not take place this semester.</i>		3 hrs				
252-0543-01 U	Computer Graphics <i>Does not take place this semester.</i>		2 hrs				
252-0543-01 A	Computer Graphics <i>Does not take place this semester.</i>		2 hrs				
<b>252-0546-00L</b>	<b>Physically-Based Simulation in Computer Graphics</b>	<b>W</b>	<b>5 credits</b>				
252-0546-00 V	Physically-Based Simulation in Computer Graphics		2 hrs	Tue	10-12	CAB G51	V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
252-0546-00 U	Physically-Based Simulation in Computer Graphics		1 hrs	Tue	16-17	CAB G51	V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
252-0546-00 A	Physically-Based Simulation in Computer Graphics		1 hrs				V. da Costa de Azevedo, B. Solenthaler, B. Thomaszewski
<b>261-5100-00L</b>	<b>Computational Biomedicine</b> <i>Number of participants limited to 120.</i>	<b>W</b>	<b>5 credits</b>				
261-5100-00 V	Computational Biomedicine <i>Online lecture: This lecture will take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>		2 hrs	Tue	10-12	ML F39	V. Boeva, G. Rätsch
261-5100-00 U	Computational Biomedicine <i>Online lecture: This lecture will take place online. Reserved rooms will remain on campus for students to follow the course from there.</i>		1 hrs	Tue	13-14	ML F39	V. Boeva, G. Rätsch
261-5100-00 A	Computational Biomedicine		1 hrs				V. Boeva, G. Rätsch
<b>401-3621-00L</b>	<b>Fundamentals of Mathematical Statistics</b>	<b>W</b>	<b>10 credits</b>				
401-3621-00 V	Fundamentals of Mathematical Statistics		4 hrs	Tue	08-10	HG E5	S. van de Geer
				Wed	10-12	HG E7	
401-3621-00 U	Fundamentals of Mathematical Statistics		1 hrs	Tue	12-13	HG D7.1 HG E7	S. van de Geer
<b>401-3627-00L</b>	<b>High-Dimensional Statistics</b>	<b>W</b>	<b>4 credits</b>				
401-3627-00 V	High-Dimensional Statistics		2 hrs	Thu	08-10	CAB G61	P. L. Bühlmann
<b>401-4623-00L</b>	<b>Time Series Analysis</b>	<b>W</b>	<b>6 credits</b>				
401-4623-00 G	Time Series Analysis <i>Does not take place this semester.</i>		3 hrs				F. Balabdaoui
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>				
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>		4 hrs	Wed	12-14	HG G5	R. Zenklusen
				Thu	10-12	HG G5	
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>		2 hrs	Thu	14-16	HG F26.5	R. Zenklusen
				Fri	10-12	CAB G51	
					12-14	HG D3.2	
					14-16	HG F26.5	
<b>401-4944-20L</b>	<b>Mathematics of Data Science</b>	<b>W</b>	<b>8 credits</b>				
401-4944-20 G	Mathematics of Data Science		4 hrs	Thu	12-14	HG G3	A. Bandeira
				Fri	10-12	HG G5	
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>				
227-0423-00 V	Neural Network Theory		2 hrs	Tue	10-12	HG F5	H. Bölskei
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on: <a href="https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html">https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html</a>. The reserved room is meant for those students who want to follow the course from the campus.</i>		1 hrs	Tue	12-13	HG F5	H. Bölskei
<b>227-1033-00L</b>	<b>Neuromorphic Engineering I</b> <i>Registration in this class requires the permission of the instructors. Class size will be limited to available lab spots. Preference is given to students that require this class as part of their major.</i>	<b>W</b>	<b>6 credits</b>				



Information for UZH students:  
Enrolment to this course unit only possible  
at ETH. No enrolment to module INI404 at  
UZH.  
Please mind the ETH enrolment deadlines  
for UZH students:  
<https://www.ethz.ch/en/studies/non-degree-courses/special-students/special-students-university-of-zurich.html>

227-1033-00 V	Neuromorphic Engineering I Permission from lecturers required for all students **together with University of Zurich** The lecturers will communicate the exact lesson times of ONLINE courses.	2 hrs	Mon	14-16	ON LINE	T. Delbrück, G. Indiveri, S.-C. Liu
227-1033-00 U	Neuromorphic Engineering I Permission from lecturers required for all students **together with University of Zurich**	3 hrs	by appt.			T. Delbrück, G. Indiveri, S.-C. Liu

Dates by arrangement.

<b>327-1201-00L</b>	<b>Transport Phenomena I</b>	<b>W</b>	<b>5 credits</b>	<b>4G</b>					
327-1201-00 G	Transport Phenomena I 14:00-15:00 Vorlesung 15:15-16:15 Übungen in zwei Gruppen 16:30-17:30 Vorlesung			4 hrs	Mon	14-18	HCP E47.3	J. Vermant	
<b>252-3005-00L</b>	<b>Natural Language Processing</b> Number of participants limited to 400.	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>					
252-3005-00 V	Natural Language Processing From HS21 in the autumn semester.			2 hrs	Mon	12-14	HG F7	R. Cotterell	
252-3005-00 U	Natural Language Processing			2 hrs	Wed	12-14	HG F7	R. Cotterell	
252-3005-00 A	Natural Language Processing			1 hrs				R. Cotterell	
<b>263-2400-00L</b>	<b>Reliable and Trustworthy Artificial Intelligence</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U+1A</b>					
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.			2 hrs	Wed	14-16	HG G3	M. Vechev	
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.			2 hrs	Mon Wed	12-14 12-14	CAB G56 CAB G51	M. Vechev	
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence			1 hrs				M. Vechev	

see also Fields of Specialization

## ► Case Studies

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-3667-71L</b>	<b>Case Studies Seminar (Autumn Semester 2021)</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
401-3667-00 S	Case Studies Seminar Attendance mandatory.			2 hrs	Thu	16-18	HG D1.2 HG D16.2	V. C. Gradinaru, R. Hiptmair, M. Reiher

## ► Semester Paper

There are several course units "Semester Paper" that are all equivalent. If, during your studies, you write several semester papers, choose among the different numbers in order to be able to obtain credits again.

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-3740-01L</b>	<b>Semester Paper</b> Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics or 402-2000-00L Scientific Works in Physics is required. For more information, see <a href="http://www.math.ethz.ch/intranet/students/study-administration/theses.html">www.math.ethz.ch/intranet/students/study-administration/theses.html</a> Supervisors only authorised for term papers must be assigned by the Study Administration.	<b>W</b>	<b>8 credits</b>	<b>11A</b>				
401-3740-01 A	Semesterarbeit RW Master ■ Permission from lecturers required for all students			160s hrs	by appt.			Supervisors
<b>401-3740-02L</b>	<b>Semester Paper (No. 2)</b> Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics or 402-2000-00L Scientific Works in Physics is required. For more information, see <a href="http://www.math.ethz.ch/intranet/students/study-administration/theses.html">www.math.ethz.ch/intranet/students/study-administration/theses.html</a> Supervisors only authorised for term papers	<b>W</b>	<b>8 credits</b>	<b>11A</b>				

## ► GESS Science in Perspective

Two credits are needed from the "Science in Perspective" programme with language courses excluded if three credits from language courses have already been recognised for the Bachelor's degree.  
see <https://ethz.ch/content/dam/ethz/common/docs/weisungssammlung/files-en/science-in-perspective.pdf> (Eight credits must be acquired in this category: normally six during the Bachelor's degree programme, and two during the Master's degree programme. A maximum of three credits from language courses from the range of the Language Center of the University of Zurich and ETH Zurich may be recognised. In addition, only advanced courses (level B2 upwards) in the European languages English, French, Italian and Spanish are recognised. German language courses are recognised from level C2 upwards.)

see Science in Perspective: Language Courses ETH/UZH

see Science in Perspective: Type A: Enhancement of Reflection Capability

Recommended Science in Perspective (Type B) for D-MATH.

## ► Master's Thesis

If you wish to have recognised 402-2000-00L Scientific Works in Physics instead of 401-2000-00L Scientific Works in Mathematics (as allowed for the CSE programme), take contact with the Study Administration Office ([www.math.ethz.ch/studiensekretariat](http://www.math.ethz.ch/studiensekretariat)) after having passed the performance assessment.

Number	Title	Type	ECTS	Hours	Lecturers
401-2000-00L	<b>Scientific Works in Mathematics</b> <i>Target audience: Third year Bachelor students; Master students who cannot document to have received an adequate training in working scientifically.</i>	O	0 credits		
401-2000-00 V	Scientific Works in Mathematics <i>Groups are selected in myStudies. This mandatory course is offered twice per semester. Carry your ETH student card with you to prove your identity. The lecturers will communicate the exact lesson times of ONLINE courses.</i>			1s hrs 28.09. 18-19 14.12. 18-19	ON LINE ON LINE <b>M. Burger</b>
401-2000-01L	<b>Lunch Sessions – Thesis Basics for Mathematics Students</b> <i>Details and registration for the optional MathBib training course: <a href="https://www.math.ethz.ch/mathbib-schulungen">https://www.math.ethz.ch/mathbib-schulungen</a></i>	Z	0 credits		
401-2000-01 G	Lunch Sessions – Thesis Basics für Mathematik-Studierende <i>geplant 4., 5., 6. und 8. Oktober 2021 über Mittag. <a href="https://math.ethz.ch/library/training-courses/lunch-sessions.html">https://math.ethz.ch/library/training-courses/lunch-sessions.html</a></i>			4s hrs	Speakers
402-2000-00L	<b>Scientific Works in Physics</b> <i>Target audience: Master students who cannot document to have received an adequate training in working scientifically.</i>	W	0 credits		
402-2000-00 V	<i>Directive <a href="https://www.ethz.ch/content/dam/ethz/common/docs/weisungssammlung/files-en/declaration-of-originality.pdf">https://www.ethz.ch/content/dam/ethz/common/docs/weisungssammlung/files-en/declaration-of-originality.pdf</a></i> Scientific Works in Physics <i>The lecture will be performed twice: on 28 October 2021 und 9 December 2021 from 16:45-18:30. Only one lecture has to be attended.</i>			2s hrs	<b>C. Eichler</b>
401-4990-01L	<b>Master's Thesis</b> <i>Only students who fulfil the following criteria are permitted to commence the Master's thesis: a. successful completion of the Bachelor's programme; b. fulfilling of any additional requirements necessary to gain admission to the Master's programme; c. successful completion of 1) at least two course units in the category 'Core courses'; 2) at least five course units, including a seminar, in the category 'Fields of specialisation'; and 3) the semester paper. Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics or 402-2000-00L Scientific Works in Physics is required. For more information, see <a href="http://www.math.ethz.ch/intranet/students/study-">www.math.ethz.ch/intranet/students/study-</a></i>	O	30 credits	57D	

401-4990-01 D	administration/theses.html Master's Thesis (CSE) ■ Permission from lecturers required for all students	800s hrs	by appt.	Supervisors
---------------	--------------------------------------------------------------------------------------------------------------	----------	----------	-------------

## ► Colloquia

Number	Title	Type	ECTS	Hours	Lecturers
401-5650-00L	<b>Zurich Colloquium in Applied and Computational Mathematics</b>	E-	0 credits	1K	
401-5650-00 K	Zurich Colloquium in Applied and Computational Mathematics **together with University of Zurich** More information at: <a href="https://studentservices.uzh.ch/uzh/anonym/vvz/index.html#/details/2021/003/SM/50027666">https://studentservices.uzh.ch/uzh/anonym/vvz/index.html#/details/2021/003/SM/50027666</a>			1 hrs Wed 16-17 HG E1.2	R. Abgrall, R. Alaifari, H. Ammari, R. Hiptmair, S. Mishra, S. Sauter

## ► Course Units for Additional Admission Requirements

The courses below are only available for MSc students with additional admission requirements.

Number	Title	Type	ECTS	Hours	Lecturers
406-0353-AAL	<b>Analysis III</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.	E-	4 credits	9R	
406-0353-AA R	Analysis III Self-study course. No presence required.			120s hrs	A. Iozzi
406-0603-AAL	<b>Stochastics (Probability and Statistics)</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.	E-	4 credits	9R	
406-0603-AA R	Stochastics (Probability and Statistics) Self-study course. No presence required.			120s hrs	M. Kalisch
401-2673-AAL	<b>Numerical Methods for CSE</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.	E-	9 credits	19R	
401-2673-AA R	Numerical Methods for CSE Self-study course. No presence required. This course completely coincides with 401-2663-00 V Numerical Methods for CSE. All information published for that course also applies to this one. Participating students are requested to enrol in the course unit 401-2663-00L as well to ensure smooth flow of information.			270s hrs	R. Hiptmair
401-0674-AAL	<b>Numerical Methods for Partial Differential Equations</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.	E-	10 credits	21R	
401-0674-AA R	Numerical Methods for Partial Differential Equations Self-study course based on video tutorial and lecture notes. No presence required.			300s hrs	R. Hiptmair
252-0232-AAL	<b>Software Engineering</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.	E-	6 credits	13R	
252-0232-AA R	Software Engineering Self-study course. No presence required.			180s hrs	F. O. Friedrich Wicker, M. Schwerhoff

## Computational Science and Engineering Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Robotics, Systems and Control Master

## ► Core Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0107-20L</b>	<b>High Performance Computing for Science and Engineering (HPCSE) I</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h</i> <i>Exercises: 14-16h</i>			4 hrs	Fri	12-14 14-16	ML H44 ML H44		<b>P. Koumoutsakos,</b> S. M. Martin
<b>151-0325-00L</b>	<b>Planning and Decision Making for Autonomous Robots</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0325-00 V	Planning and Decision Making for Autonomous Robots			2 hrs	Wed	10-12	HG E3		<b>E. Frazzoli</b>
151-0325-00 U	Planning and Decision Making for Autonomous Robots			1 hrs	Wed	12-13	HG F1		<b>E. Frazzoli</b>
<b>151-0371-00L</b>	<b>Advanced Model Predictive Control</b> <i>Number of participants limited to 40.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0371-00 V	Advanced Model Predictive Control <i>The lecture will take place on 30.09.21 in HG D 7.2.</i>			2 hrs	Thu	10-12 30.09.	HG D1.1 HG D7.2		<b>M. Zeilinger,</b> A. Carron, L. Hewing, J. Köhler
151-0371-00 U	Advanced Model Predictive Control <i>The lecture will take place on 30.09.21 in HG D 7.2.</i>			1 hrs	Thu	12-13 30.09.	HG D1.1 HG D7.2		<b>M. Zeilinger,</b> A. Carron, L. Hewing, J. Köhler
<b>151-0509-00L</b>	<b>Microscale Acoustofluidics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0509-00 G	Microscale Acoustofluidics <i>The course will take place on 29.09.21 in ML F 36.</i>			3 hrs	Wed	13-16 29.09.	LFO C13 ML F36		<b>J. Dual</b>
<b>151-0563-01L</b>	<b>Dynamic Programming and Optimal Control</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0563-01 V	Dynamic Programming and Optimal Control <i>The lecture will start in the 2nd week of Semester.</i> <i>Online lecture: This lecture will primarily take place online.</i> <i>Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG F1		<b>R. D'Andrea</b>
151-0563-01 U	Dynamic Programming and Optimal Control <i>The exercise will start in the 2nd week of Semester.</i>			1 hrs	Wed	16-17 29.09.	CAB G51 HG F1 ML E12		<b>R. D'Andrea</b>
<b>151-0593-00L</b>	<b>Embedded Control Systems</b>	<b>W</b>	<b>4 credits</b>	<b>6G</b>					
151-0593-00 G	Embedded Control Systems <i>This two-week block course takes place daily (13-17.09.2021 &amp; 20-24.09.2021) and is comprised of</i> <i>- Lectures: 8-12 h</i> <i>- Exercises: 13-17 h</i>			80s hrs	13.09.	08-10 13.09.- 17.09.	ML H44 HG G26.5		<b>J. S. Freudenberg,</b> <b>M. Schmid Daners</b>
					13.09.- 24.09.	13-17	ML J44.1		
					20.09.	08-12 13-17	HG F26.3 ML J44.1		
					21.09.	08-12	HG F26.3		
					22.09.	08-12	HG F26.3		
						15-17	ML F39		
					23.09.	08-12	HG F26.3		
					24.09.	08-12	LEE E101		
<b>151-0601-00L</b>	<b>Theory of Robotics and Mechatronics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0601-00 G	Theory of Robotics and Mechatronics <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	08-10 10-11	HG D1.2 ML E12		<b>P. Korba, S. Stoeter</b>
<b>151-0604-00L</b>	<b>Microrobotics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0604-00 G	Microrobotics <i>The class starts in the second week.</i>			3 hrs	Mon Thu	16-18 11-12	NO C60 NO C60		<b>B. Nelson,</b> N. Shamsudhin
<b>151-0632-00L</b>	<b>Vision Algorithms for Mobile Robotics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich.</i> <i>Book the corresponding module directly at UZH as an incoming student.</i> <i>UZH Module Code: DINF2039</i>  <i>Mind the enrolment deadlines at UZH:</i> <i><a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
151-0632-00 V	Vision Algorithms for Mobile Robotics (University of Zurich) <i>**Course at University of Zurich**</i>			2 hrs					<b>D. Scaramuzza</b>
151-0632-00 U	Vision Algorithms for Mobile Robotics (University of Zurich) <i>**Course at University of Zurich**</i>			2 hrs					<b>D. Scaramuzza</b>
<b>151-0851-00L</b>	<b>Robot Dynamics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0851-00 V	Robot Dynamics ■			2 hrs	Tue	10-12	HG G5		<b>M. Hutter,</b> R. Siegwart
151-0851-00 U	Robot Dynamics ■			2 hrs	Wed	08-10	HG G5 IFW A36		<b>M. Hutter,</b> R. Siegwart
<b>151-1116-00L</b>	<b>Introduction to Aircraft and Car Aerodynamics</b> <i>Note: The previous course title in German until HS20 "Einführung in Flug- und Fahrzeug aerodynamik".</i>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					

151-1116-00 G	Introduction to Aircraft and Car Aerodynamics			3 hrs	Thu 23.09.	16-19 16-19	ML F39 ML F36	<b>M. Immer, F. Schröder</b>
<b>151-0532-00L</b>	<b>Nonlinear Dynamics and Chaos I</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
151-0532-00 V	Nonlinear Dynamics and Chaos I			2 hrs	Wed	10-12	LFW B1	<b>G. Haller</b>
151-0532-00 U	Nonlinear Dynamics and Chaos I			2 hrs	Tue	16-18	ML F39	<b>G. Haller</b>
<b>227-0102-00L</b>	<b>Discrete Event Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0102-00 G	Diskrete Ereignissysteme			4 hrs	Thu	14-16 16-18	HG D7.2 HG D7.2	<b>R. Jacob, L. Vanbever, R. Wattenhofer</b>
<b>227-0103-00L</b>	<b>Control Systems</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>				
227-0103-00 V	Regelsysteme			2 hrs	Mon	10-12	NO C60	<b>F. Dörfler</b>
227-0103-00 U	Regelsysteme			2 hrs	Tue 21.09.	10-12 12-14	CHN C14 CHN C14	<b>F. Dörfler</b>
<b>227-0124-00L</b>	<b>Embedded Systems</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0124-00 G	Embedded Systems <i>Exercises in groups.</i>			4 hrs	Mon Wed  Fri	14-16 16-18  16-18	ETF C1 ETZ D61.1 ETZ D96.1 ETF E1 ETZ D61.1 ETZ D96.1	<b>L. Thiele, M. Magno</b>
<b>227-0225-00L</b>	<b>Linear System Theory</b>	<b>W</b>	<b>6 credits</b>	<b>5G</b>				
227-0225-00 G	Linear System Theory			5 hrs	Mon Wed 22.09.	09-12 10-12 10-12	IFW A36 ETZ E6 HG D1.1	<b>A. Iannelli</b>
<b>227-0247-00L</b>	<b>Power Electronic Systems I</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0247-00 G	Power Electronic Systems I			4 hrs	Tue	14-16 16-18	HG D5.2 HG D5.2	<b>J. Biela, F. Krismer</b>
<b>227-0447-00L</b>	<b>Image Analysis and Computer Vision</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>				
227-0447-00 V	Image Analysis and Computer Vision			3 hrs	Thu	14-17	HG F1	<b>L. Van Gool, E. Konukoglu, F. Yu</b>
227-0447-00 U	Image Analysis and Computer Vision			1 hrs	Thu	17-19	ETZ D61.1 ETZ D61.2	<b>L. Van Gool, E. Konukoglu, F. Yu</b>
<b>227-0526-00L</b>	<b>Power System Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0526-00 G	Power System Analysis <i>The language of instruction will be chosen by the students in the first lecture (English or German)</i>			4 hrs	Wed	14-18	ETZ E6	<b>G. Hug</b>
<b>227-0689-00L</b>	<b>System Identification</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
227-0689-00 V	System Identification			2 hrs	Wed	10-12	HG D7.1	<b>R. Smith</b>
227-0689-00 U	System Identification			1 hrs	Wed	12-13	ETZ D61.1 HG D7.1	<b>R. Smith</b>
<b>227-0697-00L</b>	<b>Industrial Process Control</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
227-0697-00 G	Industrial Process Control <i>Upon special arrangement, on some afternoons the lecture will be extended. Single lectures may be given online.</i>			3 hrs	Tue	13-16	ETZ G91	<b>A. Horch, M. Mercangöz</b>
<b>227-0920-00L</b>	<b>Seminar in Systems and Control</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>				
227-0920-00 S	Seminar in Systems and Control <i>Detailed information on the seminars upon subscription only: Several seminars will take place during the semester, but some of the available slots may remain unoccupied. Seminars will be announced individually, enrolled students will receive detailed information for each one by email.</i>  <i>Online lecture: This lecture will take place online until 25.10.21. Reserved room will remain reserved on campus for students to follow the course from there. From 01.11.21 in presence. Course website: <a href="https://nccr-automation.ch/news/2021/nccr-automation-seminar-series">https://nccr-automation.ch/news/2021/nccr-automation-seminar-series</a></i>			1 hrs	Mon 21.09.	16-17 16-17	ML F38 ON LINE	<b>F. Dörfler, R. D'Andrea, E. Frazzoli, M. H. Khammash, J. Lygeros, R. Smith</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu  Fri	15-16  08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed  Thu Fri	14-16 16-18 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				<b>J. M. Buhmann, C. Cotrini Jimenez</b>
<b>252-3110-00L</b>	<b>Human Computer Interaction</b>	<b>W</b>	<b>6 credits</b>	<b>2V+1U+2A</b>				
252-3110-00 V	Human Computer Interaction			2 hrs	Wed	14-16	HG D7.2	<b>O. Hilliges, C. Holz</b>
252-3110-00 U	Human Computer Interaction			1 hrs	Thu	12-13	CAB G56 CHN F46 LFW B3	<b>O. Hilliges, C. Holz</b>
252-3110-00 A	Human Computer Interaction			2 hrs				<b>O. Hilliges, C. Holz</b>
<b>252-5051-00L</b>	<b>Advanced Topics in Machine Learning</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>				

Number of participants limited to 40.

The deadline for deregistering expires at the end of the fourth week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.

252-5051-00 S	Advanced Topics in Machine Learning ■		2 hrs	Tue Thu	16-18 16-18	CAB G56 CAB G57	J. M. Buhmann, R. Cotterell, J. Vogt, F. Yang
<b>252-5701-00L</b>	<b>Advanced Topics in Computer Graphics W and Vision</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>			
	Number of participants limited to 24.						
	The deadline for deregistering expires at the end of the third week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.						
252-5701-00 S	Advanced Topics in Computer Graphics and Vision		2 hrs	Thu	14-16	CAB G56	M. Pollefeys, O. Sorkine Hornung, S. Tang
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>			
263-5210-00 V	Probabilistic Artificial Intelligence Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1		3 hrs	Fri	10-12 13-14	ETA F5 ETF E1 ETA F5 ETF E1	A. Krause
263-5210-00 U	Probabilistic Artificial Intelligence Q&A session: Monday, 17-18, via zoom		2 hrs	Thu	16-18	CHN C14	A. Krause
263-5210-00 A	Probabilistic Artificial Intelligence		2 hrs				A. Krause
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>			
263-5902-00 V	Computer Vision		3 hrs	Wed Thu	14-16 12-13	NO C60 HG G5	M. Pollefeys, S. Tang, F. Yu
263-5902-00 U	Computer Vision		1 hrs	Thu Fri	13-14 13-14	CAB G51 CAB G51	M. Pollefeys, S. Tang, F. Yu
263-5902-00 A	Computer Vision		3 hrs				M. Pollefeys, S. Tang, F. Yu
<b>263-5905-00L</b>	<b>Mixed Reality</b>	<b>W</b>	<b>5 credits</b>	<b>3G+1A</b>			
263-5905-00 G	Mixed Reality		3 hrs	Mon	10-13	CAB G11	I. Armeni, F. Bogo, M. Pollefeys
263-5905-00 A	Mixed Reality		1 hrs				I. Armeni, F. Bogo, M. Pollefeys
<b>376-1504-00L</b>	<b>Physical Human Robot Interaction (pHRI)</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>			
376-1504-00 V	Physical Human-Robot Interaction (pHRI) ■ To apply for the course, please prepare a letter of motivation (max. one A4 page). Please include in the letter which study program and semester you are in. Please describe why you would like to attend the course and what you expect to learn during the course. The letter should be sent to Jan Dittli (jan.dittli@hest.ethz.ch) by 05.09.2021.		2 hrs	Thu	08-10	NO E11	O. Lamercy
376-1504-00 U	Physical Human-Robot Interaction (pHRI) ■		2 hrs	Thu	10-12	NO E11	O. Lamercy
<b>636-0007-00L</b>	<b>Computational Systems Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3V+2U</b>			
636-0007-00 V	Computational Systems Biology Lecture: "inverted classroom". Students are expected to watch the lecture videos provided ahead of a Zoom Q&A session that will be held every Wednesday 16:15-17:00. Tutorials on Fridays 10:15-12:00 will be held via Zoom. In addition, students can sign up for Q&A sessions in presence in small groups (max. 30). They will be offered on selected Wednesdays 15:15-16:00 in the lecture room HG D 3.2. For details and scheduling, see the course Moodle.		3 hrs	Wed	14-17	HG D3.2	J. Stelling
636-0007-00 U	Computational Systems Biology Tutorials on Fridays 10:15-12:00 will be held via Zoom.		2 hrs	Fri	10-12	HG D1.2	J. Stelling

## ► Multidisciplinary Courses

Number	Title	Type	ECTS	Hours				Lecturers
	Any courses offered by the Departments of MAVT, ITET or INFK. Your tutor must agree to this choice.							
151-0623-00L	ETH Zurich Distinguished Seminar in Robotics, Systems and Controls	W	1 credit	1S				
151-0623-00 S	ETH Zurich Distinguished Seminar in Robotics, Systems and Controls The seminar is organized by all IRIS professors ( <a href="http://www.iris.ethz.ch/the-institute.html">http://www.iris.ethz.ch/the-institute.html</a> ).			1 hrs	Fri/2w	16-18	HG G5	B. Nelson, M. Chli, M. Hutter, R. Katzschmann, R. Riener, R. Siegwart

## ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/USZ

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-MAVT.

## ► Semester Project

Number	Title	Type	ECTS	Hours	Lecturers
151-1014-00L	<b>Semester Project Robotics, Systems and Control</b> <i>Only for Robotics, Systems and Control MSc.</i>  <i>The subject of the Semester Project and the choice of the supervisor (ETH-professor) are to be approved in advance by the tutor.</i>	O	8 credits	17A	
151-1014-00 A	Semester Project Robotics, Systems and Control			240s hrs by appt.	Professors

## ► Industrial Internship

Number	Title	Type	ECTS	Hours	Lecturers
151-1090-00L	<b>Industrial Internship</b> <i>Access to the company list and request for recognition under <a href="http://www.mavt.ethz.ch/praxis">www.mavt.ethz.ch/praxis</a>.</i>  <i>No registration required via myStudies.</i>	O	8 credits		
151-1090-00 P	Industrial Internship				external organisers

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
151-1016-00L	<b>Master's Thesis Robotics, Systems and Control</b> <i>Students who fulfill the following criteria are allowed to begin with their Master's Thesis:</i> <i>a. successful completion of the bachelor program;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme;</i> <i>c. successful completion of the semester project;</i> <i>d. achievement of 28 ECTS in the category "Core Courses".</i>  <i>The Master's Thesis must be approved in advance by the tutor and is supervised by a professor of ETH Zurich or an adjunct faculty of RSC.</i> <i>To choose a titular professor as a supervisor, please contact the D-MAVT Student Administration.</i>	O	30 credits	64D	
151-1016-00 D	Master's Thesis Robotics, Systems and Control ■			900s hrs by appt.	Professors

## Robotics, Systems and Control Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS  
■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.



# Science, Technology, and Policy Master

## ► Social Sciences

Number	Title	Type	ECTS	Hours	Lecturers			
<b>860-0003-00L</b>	<b>Cornerstone Science, Technology, and Policy</b> <i>Only for Science, Technology, and Policy MSc and PhD. ISTP-PhD students please register via the Study Administration.</i>	<b>O</b>	<b>2 credits</b>	<b>1S</b>				
860-0003-00 S	Cornerstone Science, Technology, and Policy ■ <i>Block Course</i>			20s hrs	16.09. 17.09. 20.09. 08.10.	09-17 09-17 15-18 13-17	IFW C33 IFW C33 IFW A32.1 RZ F21	<b>T. Bernauer</b>
<b>860-0004-00L</b>	<b>Bridging Science, Technology, and Policy</b> <i>Only for Science, Technology, and Policy MSc and PhD. ISTP-PhD students please register via the Study Administration.</i>	<b>O</b>	<b>3 credits</b>	<b>2S</b>				
860-0004-00 S	Bridging Science, Technology, and Policy			2 hrs	Tue	10-12	IFW B42	<b>T. Bernauer, T. Schmidt</b>
<b>860-0005-00L</b>	<b>Colloquium Science, Technology, and Policy (HS)</b> <i>Only for Science, Technology, and Policy MSc and PhD.</i>	<b>O</b>	<b>1 credit</b>	<b>2K</b>				
860-0005-00 K	Colloquium Science, Technology, and Policy			2 hrs	Wed	12-14	RZ F21	<b>T. Schmidt, T. Bernauer</b>
<b>860-0031-00L</b>	<b>Policy Analysis</b> <i>Only for Science, Technology, and Policy MSc.</i>	<b>O</b>	<b>4 credits</b>	<b>2V</b>				
860-0031-00 V	Policy Analysis			2 hrs	Wed	14-16	IFW A32.1	<b>T. Schmidt, B. Steffen, F. M. Egli</b>
<b>363-0503-00L</b>	<b>Principles of Microeconomics</b> <i>GESS (Science in Perspective): This lecture is for MSc students only. BSc students register for 363-1109-00L Einführung in die Mikroökonomie.</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
363-0503-00 G	Principles of Microeconomics <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	18-20	HG F7	<b>M. Filippini</b>
<b>860-0041-00L</b>	<b>Statistics 1</b> <i>Only for Science, Technology and Policy MSc.</i>	<b>O</b>	<b>4 credits</b>	<b>2V</b>				
860-0041-00 V	Statistics 1			2 hrs	Wed	10-12	HG F26.5	<b>E. K. Smith</b>

## ► Minor in Natural Sciences and Engineering

### ►► Urbanization and Planning

Number	Title	Type	ECTS	Hours	Lecturers			
<b>063-0703-00L</b>	<b>Architecture of Territory: Territorial Design in Histories, Theories and Projects</b> <i>This core course (ending with «00L») can only be passed once! Please check before signing up.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
063-0703-00 V	Architecture of Territory: Territorial Design in Histories, Theories and Projects <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	10-12	ONA E7	<b>M. Topalovic</b>
<b>701-1453-00L</b>	<b>Ecological Assessment and Evaluation</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
701-1453-00 G	Ecological Assessment and Evaluation			3 hrs	Mon	16-19	CHN E46	<b>F. Knaus</b>
<b>363-1047-00L</b>	<b>Urban Systems and Transportation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
363-1047-00 G	Urban Systems and Transportation <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	10-12	LFW B1	<b>G. Loumeau</b>
<b>101-0509-00L</b>	<b>Infrastructure Management 1: Process</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
101-0509-00 G	Infrastructure Management 1: Process <i>Project: Mon 9-10 Lecture: Fr 10-12</i>			3 hrs	Mon Fri	09-10 10-12	HIL E1 HIL F10.3	<b>B. T. Adey</b>
<b>103-0347-01L</b>	<b>Landscape Planning and Environmental Systems (GIS Exercises)</b>	<b>W</b>	<b>3 credits</b>	<b>2U</b>				
103-0347-01 U	Landscape Planning and Environmental Systems (GIS Exercises) ■			2 hrs	Wed	16-18	HIL E10.1 HIL E15.2 HIL F15.4	<b>A. Grêt-Regamey, C. Brouillet, N. Klein</b>
<b>103-0347-00L</b>	<b>Landscape Planning and Environmental Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
103-0347-00 V	Landscape Planning and Environmental Systems ■			2 hrs	Fri	08-10	HIL E8	<b>A. Grêt-Regamey</b>
<b>101-0427-01L</b>	<b>Public Transport Design and Operations</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				

101-0427-01 G	Public Transport Design and Operations		4 hrs	Mon Thu	14-16 08-10	HIL E10.1 HIL E10.1	<b>F. Corman, F. Leutwiler</b>
<b>103-0317-00L</b>	<b>Introduction to Spatial Development and W Transformation</b>	<b>3 credits</b>	<b>2G</b>				
	<i>Only for master students, otherwise a special permission by the lecturer is required.</i>						
103-0317-00 G	Introduction to Spatial Development and Transformation		2 hrs	Tue	10-12	HIL E6	<b>M. Nollert, D. Kaufmann</b>
<b>052-0707-00L</b>	<b>Urban Design III</b>	<b>W</b>	<b>2 credits</b>				
052-0707-00 V	Urban Design III		2 hrs	Thu	08-10	ONA E7	<b>H. Klumpner, M. Fessel</b>
	<i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>						
<b>851-0252-08L</b>	<b>Evidence-Based Design: Methods and Tools For Evaluating Architectural Design</b>	<b>W</b>	<b>3 credits</b>				
	<i>Number of participants limited to 40</i>						
	<i>Particularly suitable for students of D-ARCH</i>						
851-0252-08 S	Evidence-Based Design: Methods and Tools For Evaluating Architectural Design		2 hrs	Fri	10-12	HIL E10.1	<b>M. Gath Morad, C. Hölscher, L. Narvaez Zertuche, C. Veddele</b>

## ►► Energy and Mobility

Number	Title	Type	ECTS	Hours				Lecturers
<b>151-0216-00L</b>	<b>Wind Energy</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0216-00 V	Wind Energy			2 hrs	Thu	14-16	HG D7.1	<b>N. Chokani</b>
	<i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>							
151-0216-00 U	Wind Energy			1 hrs	Thu	16-17	HG D7.1	<b>N. Chokani</b>
	<i>Online exercises: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the exercises from there.</i>							
<b>227-0731-00L</b>	<b>Power Market I - Portfolio and Risk Management</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>				
227-0731-00 G	Power Market I - Portfolio and Risk Management			4 hrs	Tue	08-12	HG D7.1	<b>D. Reichelt, G. A. Koepfel</b>
<b>363-1047-00L</b>	<b>Urban Systems and Transportation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
363-1047-00 G	Urban Systems and Transportation			2 hrs	Thu	10-12	LFW B1	<b>G. Loumeau</b>
	<i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>							
<b>151-0163-00L</b>	<b>Nuclear Energy Conversion</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0163-00 V	Nuclear Energy Conversion			2 hrs				<b>A. Manera</b>
	<i>Does not take place this semester.</i>							
151-0163-00 U	Nuclear Energy Conversion			1 hrs				<b>A. Manera</b>
	<i>Does not take place this semester. Andere Übungstermine können abgesprochen werden.</i>							
<b>151-1633-00L</b>	<b>Energy Conversion</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
	<i>This course is intended for students outside of D-MAVT.</i>							
151-1633-00 G	Energy Conversion			3 hrs	Mon	10-13	NO C6	<b>I. Karlin, G. Sansavini</b>
<b>151-0567-00L</b>	<b>Engine Systems</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
151-0567-00 G	Engine Systems			3 hrs	Mon	08-10 12-13 06.10. 12-14	ML F38 ML H41.1 ML E12	<b>C. Onder</b>
	<i>Lecture: Monday 8-10h Exercises: Monday 12-13h</i>							
<b>227-0122-00L</b>	<b>Introduction to Electric Power Transmission: System &amp; Technology</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>				
227-0122-00 V	Introduction to Electric Power Transmission: System & Technology			2 hrs	Thu	08-10	ML H44	<b>C. Franck, G. Hug</b>
227-0122-00 U	Introduction to Electric Power Transmission: System & Technology			2 hrs	Thu	10-12	ML H44	<b>C. Franck, G. Hug</b>
<b>227-0665-00L</b>	<b>Battery Integration Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>				
	<i>Priority given to Electrical and Mechanical Engineering students</i>							
	<i>Students are required to have attended one of the following courses:</i>							
	<i>- 227-0664-00L Technology and Policy of Electrical Energy Storage</i>							
	<i>- 529-0440-00L Physical Electrochemistry and Electrocatalysis</i>							
	<i>- 529-0191-01L Renewable Energy Technologies II, Energy Storage and Conversion</i>							
	<i>- 529-0659-00L Electrochemistry (Exception for PhD students).</i>							
227-0665-00 V	Battery Integration Engineering			2 hrs	Mon	13-15	NO D11	<b>T. J. Patey</b>
227-0665-00 U	Battery Integration Engineering			1 hrs	Mon	15-16	NO D11	<b>T. J. Patey</b>

## ►► Data and Computer Science

Number	Title	Type	ECTS	Hours				Lecturers
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>				
263-3210-00 V	Deep Learning			3 hrs	Wed Thu	13-14 14-16	ML D28 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 U	Deep Learning			2 hrs	Mon Wed	16-18 16-18	HG G5 ML D28	<b>F. Perez Cruz, A. Lucchi</b>
263-3210-00 A	Deep Learning			2 hrs				<b>F. Perez Cruz, A. Lucchi</b>
<b>252-1414-00L</b>	<b>System Security</b>	<b>W</b>	<b>7 credits</b>	<b>2V+2U+2A</b>				
252-1414-00 V	System Security			2 hrs	Mon	10-12	HG D1.2	<b>S. Capkun, A. Perrig</b>
252-1414-00 U	System Security <i>The exercises begin in the second week of the semester.</i>			2 hrs	Thu	14-16 16-18	HG D3.2 CAB G11	<b>S. Capkun, A. Perrig</b>
252-1414-00 A	System Security			2 hrs				<b>S. Capkun, A. Perrig</b>
<b>263-4640-00L</b>	<b>Network Security</b>	<b>W</b>	<b>8 credits</b>	<b>2V+2U+3A</b>				
263-4640-00 V	Network Security			2 hrs	Tue	10-12	HG E1.2	<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
263-4640-00 U	Network Security			2 hrs	Thu	16-18	CAB G61	<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
263-4640-00 A	Network Security <i>Project Work, no fixed presence required.</i>			3 hrs				<b>A. Perrig, S. Frei, M. Legner, K. Paterson</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>				
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed Thu Fri	14-16 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann, C. Cotrini Jimenez</b>
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				<b>J. M. Buhmann, C. Cotrini Jimenez</b>
<b>263-2400-00L</b>	<b>Reliable and Trustworthy Artificial Intelligence</b>	<b>W</b>	<b>6 credits</b>	<b>2V+2U+1A</b>				
263-2400-00 V	Reliable and Trustworthy Artificial Intelligence <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Wed	14-16	HG G3	<b>M. Vechev</b>
263-2400-00 U	Reliable and Trustworthy Artificial Intelligence <i>Exercise session will start in the second week of the semester. Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Mon Wed	12-14 12-14	CAB G56 CAB G51	<b>M. Vechev</b>
263-2400-00 A	Reliable and Trustworthy Artificial Intelligence			1 hrs				<b>M. Vechev</b>
<b>263-3845-00L</b>	<b>Data Management Systems</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-3845-00 V	Data Management Systems			3 hrs	Wed Fri	10-12 08-09	CAB G61 HG G3	<b>G. Alonso</b>
263-3845-00 U	Data Management Systems			1 hrs	Fri	09-10	HG D5.1 HG E21 HG G26.1	<b>G. Alonso</b>
263-3845-00 A	Data Management Systems			3 hrs				<b>G. Alonso</b>
<b>263-5902-00L</b>	<b>Computer Vision</b>	<b>W</b>	<b>8 credits</b>	<b>3V+1U+3A</b>				
263-5902-00 V	Computer Vision			3 hrs	Wed Thu	14-16 12-13	NO C60 HG G5	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 U	Computer Vision			1 hrs	Thu Fri	13-14 13-14	CAB G51 CAB G51	<b>M. Pollefeys, S. Tang, F. Yu</b>
263-5902-00 A	Computer Vision			3 hrs				<b>M. Pollefeys, S. Tang, F. Yu</b>
<b>252-3005-00L</b>	<b>Natural Language Processing</b> <i>Number of participants limited to 400.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>				
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>			2 hrs	Mon	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 U	Natural Language Processing			2 hrs	Wed	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 A	Natural Language Processing			1 hrs				<b>R. Cotterell</b>

## ►► Life Science and Health

Number	Title	Type	ECTS	Hours				Lecturers
<b>376-0021-00L</b>	<b>Materials and Mechanics in Medicine</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
376-0021-00 G	Materials and Mechanics in Medicine <i>Groups are selected in myStudies. lecture: Di 14-16h exercises: Di 16-17h, start at the second week of the semester.  The lecturers will communicate the exact lesson times of the ONLINE-exercises.</i>			3 hrs	Tue	14-16 16-17	HG F1 CHN G42 ETZ E8 HG D7.1 ML H41.1 ON LINE	<b>M. Zenobi-Wong, J. G. Snedeker</b>
<b>376-1103-00L</b>	<b>Frontiers in Nanotechnology</b>	<b>W</b>	<b>4 credits</b>	<b>4V</b>				

376-1103-00 V	Frontiers in Nanotechnology			4 hrs	Mon Fri	10-12 14-16	HCP E47.3 HCP E47.3	<b>V. Vogel</b> , further lecturers
<b>376-1714-00L</b>	<b>Biocompatible Materials</b>	<b>W</b>	<b>4 credits</b>	<b>3V</b>				
376-1714-00 V	Biocompatible Materials <i>Vorlesung 9-11h</i> <i>Übungen/Gruppenarbeiten 11-12h</i>			3 hrs	Fri	09-12	HG G3	<b>K. Maniura</b> , M. Rottmar, M. Zenobi-Wong
<b>376-0300-00L</b>	<b>Translational Science for Health and Medicine</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
376-0300-00 G	Translational Science for Health and Medicine ■			2 hrs	Fri	10-12	IFW A36	<b>J. Goldhahn</b> , C. Wolfrum
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-6105-00 V	Epidemiology and Prevention			2 hrs	Wed	12-14	CHN C14	<b>M. Puhán</b> , R. Heusser
<b>752-6151-00L</b>	<b>Public Health Concepts</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
752-6151-00 V	Public Health Concepts			2 hrs	Mon 27.09.	14-16 14-16	HG D1.1 CHN G42	<b>R. Heusser</b>
<b>636-0109-00L</b>	<b>Stem Cells: Biology and Therapeutic Manipulation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
636-0109-00 G	Stem Cells: Biology and Therapeutic Manipulation <i>Does not take place this semester.</i> <i>This lecture will not be held in Autumn Semester 2021. It will be offered again in Autumn Semester 2022.</i>			3 hrs				<b>T. Schroeder</b>
<b>376-0225-00L</b>	<b>Physical Activities and Health</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
376-0225-00 V	Physical Activities and Health			2 hrs	Fri	14-16	HIL E6	<b>R. Knols</b> , E. de Bruin, further speakers

## ►► Resources and Environment

Number	Title	Type	ECTS	Hours					Lecturers
<b>103-0347-00L</b>	<b>Landscape Planning and Environmental Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
103-0347-00 V	Landscape Planning and Environmental Systems ■			2 hrs	Fri	08-10	HIL E8		<b>A. Grêt-Regamey</b>
<b>651-4057-00L</b>	<b>Climate History and Palaeoclimatology</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
651-4057-00 G	Climate History and Palaeoclimatology			2 hrs	Fri	10-12	ML F39		<b>H. Stoll</b> , I. Hernández Almeida, H. Zhang
<b>701-1341-00L</b>	<b>Water Resources and Drinking Water</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1341-00 G	Water Resources and Drinking Water <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	08-10	CAB G11		<b>S. Hug</b> , M. Berg, F. Hammes, U. von Gunten
<b>701-1677-00L</b>	<b>Quantitative Vegetation Dynamics: Models from Tree to Globe</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
701-1677-00 G	Quantitative Vegetation Dynamics: Models from Tree to Globe <i>Online event: Will primarily take place online (Zoom). Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Fri	14-17	CHN G22		<b>H. Lischke</b> , U. Hiltner, B. Rohner
<b>651-4097-00L</b>	<b>Applied Mineralogy and Non-Metallic Resources I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
651-4097-00 G	Applied Mineralogy and Non-Metallic Resources I <i>The lecture starts in the second week of the semester.</i>			2 hrs	Thu	08-10	NO E39		<b>R. Kündig</b>
<b>701-1346-00L</b>	<b>Carbon Mitigation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>Number of participants limited to 90.</i> <i>Priority is given to the target groups:</i> <i>Bachelor and Master Environmental Sciences and PHD Environmental Sciences until September 21st, 2021.</i> <i>Waiting list will be deleted October 1st, 2021.</i>								
701-1346-00 G	Carbon Mitigation			2 hrs	Mon	10-12	CHN C14		<b>N. Gruber</b>
<b>103-0347-01L</b>	<b>Landscape Planning and Environmental Systems (GIS Exercises)</b>	<b>W</b>	<b>3 credits</b>	<b>2U</b>					
103-0347-01 U	Landscape Planning and Environmental Systems (GIS Exercises) ■			2 hrs	Wed	16-18	HIL E10.1 HIL E15.2 HIL F15.4		<b>A. Grêt-Regamey</b> , C. Brouillet, N. Klein
<b>701-1253-00L</b>	<b>Analysis of Climate and Weather Data</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1253-00 G	Analysis of Climate and Weather Data <i>Does not take place this semester.</i>			2 hrs					<b>C. Frei</b>
<b>701-1551-00L</b>	<b>Sustainability Assessment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>Number of participants limited to 35.</i>  <i>Waiting list will be deleted October 1st, 2021.</i>  <i>No enrollment possible after October 1st, 2021.</i>								
701-1551-00 G	Sustainability Assessment			2 hrs	Fri	10-12	CHN G42		<b>P. Krüttli</b> , D. Nef
<b>701-1257-00L</b>	<b>European Climate Change</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					

## ► Case Studies

Number	Title	Type	ECTS	Hours				Lecturers
860-0011-00L	<b>Agent-Based Modeling and Social System Simulation - With Coding Project</b> <i>Only for Science, Technology, and Policy MSc.</i>  <i>Prerequisites: Good mathematical skills, basic programming skills, elementary probability and statistics.</i>	W	6 credits	2S+2A				
851-0101-86 S	Complex Social Systems: Modeling Agents, Learning, and Games <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>		2 hrs	Mon	16-18	HG D7.2	N. Antulov-Fantulin, T. Asikis, D. Helbing	
860-0011-00 A	Complex Social Systems: Modeling Agents, Learning, and Games - With Coding Project		2 hrs				N. Antulov-Fantulin, T. Asikis, D. Helbing	
101-0417-00L	<b>Transport Planning Methods</b>	W	6 credits	4G				
101-0417-00 G	Transport Planning Methods		4 hrs	Mon Wed 22.09. 27.09. 29.09. 04.10. 06.10.	10-12 10-12 10-12 10-12 10-12 10-12 10-12	HIL F36.1 HIL F36.1 HCP E47.1 HIL F10.3 HCP E47.1 HIL F10.3 HCP E47.1	K. W. Axhausen	
860-0012-01L	<b>Cooperation and Conflict Over International Water Resources, In-Depth Case Study</b> <i>Only for Science, Technology, and Policy MSc and PhD students.</i>  <i>Prerequisite: you have to be enrolled in 860-0012-00L during the same semester.</i>	W	3 credits	2A				
860-0012-01 A	Cooperation and Conflict Over International Water Resources, In-Depth Case Study		2 hrs				B. Wehrli, T. Bernauer	
860-0012-00L	<b>Cooperation and Conflict Over International Water Resources</b> <i>Number of participants limited to 40. Priority for Science, Technology, and Policy MSc.</i>  <i>This is a research seminar at the Master level. PhD students are also welcome.</i>	W	3 credits	2S				
860-0012-00 S	Cooperation and Conflict Over International Water Resources		2 hrs	Tue	12-14	LEE D105	B. Wehrli, T. Bernauer, E. Calamita, T. U. Siegfried	
► Electives								
Number	Title	Type	ECTS	Hours				Lecturers
351-0778-01L	<b>Discovering Management (Exercises)</b> <i>Complementary exercises for the module Discovering Management.</i>  <i>Prerequisite: Participation and successful completion of the module Discovering Management (351-0778-00L) is mandatory.</i>	W	1 credit	1U				
351-0778-01 U	Discovering Management (Exercises)			1 hrs	Fri	11-12	HG E1.1	B. Clarysse, L. P. T. Vandeweghe
351-0778-00L	<b>Discovering Management</b> <i>Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercises) 351-0778-01.</i>	W	3 credits	3G				
351-0778-00 G	Discovering Management <i>Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Fri	08-11	HG E1.1	B. Clarysse, S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe
851-0609-06L	<b>Governing the Energy Transition</b> <i>Primarily suited for Master and PhD level.</i>	W	2 credits	2V				
851-0609-06 V	Governing the Energy Transition			2 hrs	Thu	16-18	NO C60	T. Schmidt, N. Schmid, S. Sewerin
363-1065-00L	<b>Design Thinking: Human-Centred Solutions to Real World Challenges</b>	W	5 credits	5G				
363-1065-00 G	Design Thinking: Human-Centred Solutions to Real World Challenges <i>Does not take place this semester. From FS22 in the spring semester.</i>			5 hrs				S. Brusoni

<b>857-0027-00L</b>	<b>International Organizations (Field Trip)</b> <i>Only for Comparative and International Studies MSc.</i>	<b>W</b>	<b>2 credits</b>	<b>1S</b>					
857-0027-00 S	International Organizations <i>Field trip to Geneva.</i>			20s hrs					<b>D. Hangartner</b>
<b>860-0023-00L</b>	<b>International Environmental Politics</b> <i>Particularly suitable for students of D-ITET, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3		<b>T. Bernauer</b>
<b>860-0034-00L</b>	<b>Designing and Implementing Public Opinion Surveys and Experiments</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
860-0034-00 V	Designing and Implementing Public Opinion Surveys and Experiments			2 hrs	Mon	14-16	IFW B42		<b>L. P. Fesenfeld, F. Quoss</b>
<b>865-0008-00L</b>	<b>Policy Evaluation and Applied Statistics</b> <i>Only for MAS in Development and Cooperation and Science, Technology, and Policy MSc.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
865-0008-00 G	Policy Evaluation and Applied Statistics <i>Does not take place this semester. Termine n.V. Ort: CLD</i>			40s hrs					<b>I. Günther</b>
<b>701-1631-00L</b>	<b>Foundations of Ecosystem Management</b>	<b>W</b>	<b>5 credits</b>	<b>3G</b>					
701-1631-00 G	Foundations of Ecosystem Management			3 hrs	Thu	10-13	CHN G46 HG E41 HG E33.1		<b>J. Ghazoul, C. Garcia, J. Garcia Ulloa, A. Giger Dray</b>
					23.09.	10-13			
<b>851-0467-00L</b>	<b>From Traffic Modeling to Smart Cities and Digital Democracies</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0467-00 S	From Traffic Modeling to Smart Cities and Digital Democracies <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Mon	18-20	IFW A32.1		<b>D. Helbing, S. Mahajan</b>
<b>851-0585-41L</b>	<b>Computational Social Science</b> <i>Number of participants limited to 50.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
851-0585-41 S	Computational Social Science <i>Online seminar: This seminar will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the seminar from there.</i>			2 hrs	Tue	18-20	RZ F21		<b>D. Helbing, J. Argota Sánchez-Vaquero, M. Korecki</b>
<b>363-0537-00L</b>	<b>Resource and Environmental Economics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Wed	10-12	HG G3		<b>L. Bretschger</b>
<b>701-1563-00L</b>	<b>Climate Policy</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
701-1563-00 G	Climate Policy			3 hrs	Mon Wed Fri	09-10 09-10 09-10	CHN C14 CAB G51 HG F5		<b>A. Patt, S. Hanger-Kopp</b>
<b>052-0707-00L</b>	<b>Urban Design III</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
052-0707-00 V	Urban Design III <i>No course on 28.10. (seminar week) 16./23.12. (before final critiques).</i>			2 hrs	Thu	08-10	ONA E7		<b>H. Klumpner, M. Fessel</b>

## ► Internship

*The performance counts as electives.*

Number	Title	Type	ECTS	Hours	Lecturers
<b>860-0600-00L</b>	<b>Internship - Short</b> <i>The internship can be started the earliest in the second semester. The internship needs to be approved by the study director. Therefore students need to hand in a short description to the study secretary before they start the internship.</i>	<b>W</b>	<b>6 credits</b>		
860-0600-00 P	Internship - Short <i>The short internship corresponds to a workload of 180 hours, to be accomplished within 3 months.</i>				external organisers
<b>860-0700-00L</b>	<b>Internship - Long</b> <i>The internship can be started the earliest in the second semester. The internship needs to be approved by the study director. Therefore students need to hand in a short description to the study secretary before they start the internship.</i>	<b>W</b>	<b>12 credits</b>		
860-0700-00 P	Internship - Long <i>The long internship corresponds to a workload of 360 hours, to be accomplished within 6 months.</i>				external organisers

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

860-0900-00L Master's Thesis O 30 credits 64D

Only students who fulfill the following criteria are allowed to begin with their master thesis:  
a. successful completion of the bachelor programme;  
b. fulfilling of any additional requirements necessary to gain admission to the master programme.

860-0900-00 D Master's Thesis ■

900s hrs by appt.

Professors

#### Science, Technology, and Policy Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Sport Teaching Diploma

Detailed information on the programme at: [www.didaktischeausbildung.ethz.ch](http://www.didaktischeausbildung.ethz.ch)

## ► Educational Science

Course offerings in the category Educational Science are listed under "Programme: Educational Science for Teaching Diploma and TC".

Number	Title	Type	ECTS	Hours				Lecturers
	see Educational Science Teaching Diploma							
851-0240-15L	<b>Designing Educational Environments in Physical Education (EW2 Sport)</b> <i>Compulsory course requirements for EW2 Sport: This course is required to be taken prior to EW4 Sport "Outdoor Education: Concepts and Practice" (851-0242-02L)</i>	O	4 credits	2S				
851-0240-15 S	Die Gestaltung schulischer Lernumgebungen im Sport (EW2 Sport) ■ <i>Unregelmässige Veranstaltung. Outdoor-Weekend: 2./3.10.2021</i>  <i>Das-Outdoor-Weekend muss vollumfänglich besucht werden; max. 1 Absenz bei den übrigen Terminen</i>			28s hrs	Tue	18-20	LEE D101	H. Gubelmann, R. Scharpf
851-0240-00L	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	O	2 credits	2V				
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1	E. Stern
851-0242-08L	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30 This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	W	1 credit	2S				
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11. An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1	P. Edelsbrunner, T. Braas, C. M. Thurn

## ► Subject Didactics in Sport

Important: You can only enrolle in the courses of this category if you have not more than 12 CP left for possible additional requirements.

Number	Title	Type	ECTS	Hours				Lecturers
557-0315-00L	<b>Sports Didactics I</b> <i>Only for Teaching Diploma Sports.</i>	O	4 credits	2V				
	<i>Simultaneous enrolment in Introductory Internship Sports - course 557-0210-00L - is compulsory.</i>							
557-0315-00 V	Fachdidaktik Sport I ■ <i>Unterricht in den Sporthallen Höggerberg 16.00 - 17.55h</i>			2 hrs	Tue	16-18	HPS C21.2 HPS C21.3 HPS D29	R. Scharpf, O. Graf
557-0203-01L	<b>Mentored Work Subject Didactics Sport</b> <i>Only for Teaching Diploma Sports.</i>	O	4 credits	9A				
557-0203-01 A	Mentorierte Arbeit Fachdidaktik Sport ■			120s hrs	by appt.			Supervisors

## ► Professional Training in Sport

Important: You can only enrolle in the courses of this category if you have not more than 12 CP left for possible additional requirements.

Number	Title	Type	ECTS	Hours				Lecturers
557-0210-00L	<b>Introductory Internship Sports</b> <i>Only for Teaching Diploma Sports.</i>	O	3 credits	6P				O. Graf, R. Scharpf
<i>Simultaneous enrolment in Sports Didactics I - course 557-0315-00L - is compulsory.</i>								
557-0210-00 P	Einführungspraktikum Sport ■			90s hrs	by appt.			
557-0208-00L	<b>Teaching Internship Sport</b> <i>Only for Teaching Diploma Sports.</i>	O	8 credits	17P				O. Graf, R. Scharpf
557-0208-00 P	Unterrichtspraktikum Sport Lehrdiplom ■			240s hrs	by appt.			
557-0220-00L	<b>Partial Teaching Internship Sport</b> <i>Only for Teaching Diploma Sports.</i>	O	5 credits	11P				
557-0220-00 P	Teilpraktikum Unterricht an gymnasialer Maturitätsschule ■			150s hrs	by appt.			O. Graf, R. Scharpf
557-0215-00L	<b>Professional Exercises</b> <i>Only for Teaching Diploma Sports.</i>	O	2 credits	4G				O. Graf
557-0215-00 G	Berufspraktische Uebungen Sporthalle Höggerberg Hallen 1+2			60s hrs	Tue	10-12	HPS C21.1 HPS C21.2	



557-0211-01L	<b>Examination Lesson I Sports</b> <i>Only for Teaching Diploma Sports.</i>	O	1 credit	2P				
<i>Simultaneous enrolment in "Examination Lesson II Sports" (557-0211-02L) is compulsory.</i>								
557-0211-01 P	Prüfungslektion untere Stufe Sport ■			30s hrs	by appt.			O. Graf, R. Scharpf
557-0211-02L	<b>Examination Lesson II Sports</b> <i>Only for Teaching Diploma Sports.</i>	O	1 credit	2P				
<i>Simultaneous enrolment in "Examination Lesson I Sports" (557-0211-01L) is compulsory.</i>								
557-0211-02 P	Prüfungslektion obere Stufe Sport ■			30s hrs	by appt.			R. Scharpf, O. Graf

### ► Spec. Courses in Resp. Subj. w/ Educ. Focus & Further Subj. Didactics

#### ►► Specialized Courses in Respective Subject with Educational Focus I

*At least 6 CP's must be obtained in this category.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>376-1033-00L</b>	<b>History of Sports</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
376-1033-00 V	Sportgeschichte			2 hrs	Thu	16-18	HG E33.3		<b>M. Gisler</b>
<b>376-1107-00L</b>	<b>Sport Pedagogy</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
376-1107-00 V	Sportpädagogik <i>Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Thu	10-12	NO C44		<b>C. Herrmann</b>
<b>376-1117-00L</b>	<b>Sport Psychology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
376-1117-00 V	Sportpsychologie <i>Exkursion: Sa 18.12.2021 Skispringen Weltcup Engelberg (Die Termine 12.10./19.10./16.11. entfallen)</i>			2 hrs	Tue	14-16	HG E1.2		<b>H. Gubelmann</b>
<b>376-1127-00L</b>	<b>Sociology of Sport</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
376-1127-00 V	Sportsoziologie			2 hrs	Thu	08-10	NO C6		<b>R. Bürgi, M. Lamprecht</b>
<b>557-0205-00L</b>	<b>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus Sport A</b> <i>Only for Teaching Diploma Sports.</i>	<b>O</b>	<b>2 credits</b>	<b>4A</b>					
557-0205-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädag. Fokus Sport A für Lehrdiplom ■ <i>Die mentorierte Arbeit wird in einem der 2 gewählten Fachbereiche geleistet!</i>			60s hrs	by appt.				Supervisors

#### ►► Specialized Courses in Respective Subject with Educational Focus II

*At least 6 CP's must be obtained in this category.*

*Further courses must be chosen from the "Sport Practical: Major Education".*

Number	Title	Type	ECTS	Hours	Lecturers
557-0206-00L	<b>Mentored Work Specialised Courses in the Respective Subject with an Educational Focus Sport B</b> <i>Only for Teaching Diploma Sports.</i>	O	2 credits	4A	
	<i>Prerequisite: Sports Didactics I</i>				
557-0206-00 A	Mentorierte Arbeit Fachwissenschaftliche Vertiefung mit pädagogischem Fokus Sport B Lehrdiplom ■ <i>Die mentorierte Arbeit wird in einem Grundausbildungs- oder Vertiefungsfach geleistet.</i>			60s hrs	by appt.
	Supervisors				
	<i>see Sport Teaching Diploma, Sport Practical: Major Education</i>				

### ► Compulsory Elective Courses

*At least 6 CP's must be acquired in this category.*

*Further courses must be chosen from the "Sports Practice: Major Education and Specialized Education".*

*see Sport Teaching Diploma, Sport Practical: Major Education*

### ► Sports Practice

*The Teaching Diploma in Sports will only be granted to students holding a Master, Diploma or Licentiate degree in Human Movement Sciences and Sports or Health Sciences and Technology. Additionally, a Sports Practice encompassing 56 CP's is required. The Sports Practice can be partly conducted during the Bachelor and Master programmes in Sports.*

#### ►► Assessments

Number	Title	Type	ECTS	Hours					Lecturers
<b>557-0101-00L</b>	<b>Assessment I Shaping</b> <i>Only for Health Sciences and Technology BSc and Teaching Diploma Sports.</i>	<b>O</b>	<b>2 credits</b>	<b>2G</b>					

557-0101-00 G	Assessment I Gestalten 1. Gruppe 13.30 - 15.00h 2. Gruppe 15.10 - 16.40h Sporthallen Höggerberg			2 hrs	Thu	13-15 13-17 15-17	HPS C21.1 HPS E24.1 HPS C21.1	M.-M. Jäggi, C. König
<b>557-0103-00L</b>	<b>Assessment II Toning</b> Only for Health Sciences and Technology BSc and Teaching Diploma Sport.	<b>O</b>	<b>2 credits</b>	<b>2G</b>				
557-0103-00 G	Assessment II Leisten ■ Hallen 1-3 Höggerberg			2 hrs	Fri	08-11	HPS C21.1 HPS D29 HPS E24.1	M. Zürcher, A. Krebs, M. Perk

## ►► Basic Education

Number	Title	Type	ECTS	Hours	Lecturers			
<b>557-0412-01L</b>	<b>Dance I</b> Prerequisites: Assessment I (BSc HST).	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
557-0412-01 G	Tanz I ■ Gruppe 1: 13.30h-15.00h Arena 2 + 3 Gruppe 2: 15.15h-16.45h Arena 2 + 3  Obligatorisch für LD Sport neues Reglement!			2 hrs	Mon	14-17	HPS E24.1 HPS E28.1	C. Gmünder
<b>557-0433-00L</b>	<b>Apparatus Gymnastics and Trampoline I</b> W Prerequisites: Assessment I BSc HST.	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
557-0433-00 G	Geräteturnen und Trampolin I ■ Hallen Höggerberg 13.15h-14.45h 1. Gruppe 14.45h-16.15h 2. Gruppe  Obligatorisch für LD Sport neues Reglement!			2 hrs	Fri	13-15 15-17	HPS C21.3 HPS C21.3	M.-M. Jäggi
<b>557-0454-01L</b>	<b>Swimming I</b> Prerequisites: Assessment II BSc HST.  Enrolment only via Study Administration HST!	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
557-0454-01 G	Schwimmen I ■ Wird nur ausnahmsweise im HS21 angeboten - findet normal im Frühjahrssemester statt.  BESUCH IM HS21 NUR FÜR STUDIERENDE MÖGLICH, DIE DURCH DAS STUDIENSEKRETARIAT KONTAKTIERT WURDEN (als Ersatz für FS21).  Unterricht im Hallenbad Oerlikon am Donnerstag 10.30-12.00h.			2 hrs	Thu	10-12	Ex tern	M. Perk
<b>557-0503-01L</b>	<b>Basketball 1</b> Prerequisites: Assessment III (BSc HST).	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
557-0503-01 G	Basketball I ■ 1. Gruppe 07.45 - 09.15h 2. Gruppe 09.45 - 11.15h Hallen 1-3 Höggerberg  Obligatorisch für LD Sport neues Reglement!			2 hrs	Thu	08-11	HPS C21.1	C. Ferrari
<b>557-0514-03L</b>	<b>Soccer I</b> Prerequisites: Assessment III BSc HST.	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
557-0514-03 G	Fussball I ■ Obligatorisch für LD Sport neues Reglement! Genauere Zeiten: 1. Gruppe 12.00 - 13.30h 2. Gruppe 16.15 - 17.45h  Gruppeneinteilung wird durch das Studiensekretariat vorgenommen.			2 hrs	Thu	12-14 16-18	HSA -FLUNT HSA -FLUNT	H. A. Russheim, P. C. Humbel
<b>557-0533-01L</b>	<b>Floorball I</b> Prerequisites: Assessment III BSc HST	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
557-0533-01 G	Unihockey I ■ Unterricht 13.15h-14.45h Höggerberg  Obligatorisch für LD Sport neues Reglement!			2 hrs	Fri	13-15	HPS C21.1	F. Ungrad
<b>557-0522-01L</b>	<b>Handball I</b> Prerequisites: Assessment III (BSc HST).	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
557-0522-01 G	Handball I ■ Ort: Sporthallen Irchel 1. Gruppe: 07.45 - 09.15h 2. Gruppe: 09.45 - 11.15h  Obligatorisch für LD Sport neues Reglement!			2 hrs	Thu	08-11	Ex tern	F. Lühinger
<b>557-0601-00L</b>	<b>Badminton I</b> Prerequisites: Assessment III (BSc HST).	<b>W</b>	<b>2 credits</b>	<b>2G</b>				



## ►► Compensation Courses

Number	Title	Type	ECTS	Hours	Lecturers
<b>557-0603-01L</b>	<b>Snowsports I - Ski</b> <i>Prerequisites: Assessment I+II (BSc HST) passed.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
557-0603-01 G	Schneesport I - Ski ■ <i>Blockwoche in Davos vom 09.01.2022 bis 14.01.2022. separate Anmeldung über Studiensekretariat nötig!</i>  <i>Obligatorisch für LD Sport neues Reglement!</i>			2 hrs	<b>C. Elmiger-Schnyder</b> , further lecturers
<b>557-0603-02L</b>	<b>Snowsports I - Snowboard</b> <i>Prerequisites: Assessment I+II (BSc HST) passed.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
557-0603-02 G	Schneesport I - Snowboard ■ <i>Blockwoche in Davos vom 09.01.2022 - 14.01.2022 separate Anmeldung über Studiensekretariat HST nötig!</i>  <i>Obligatorisch für LD Sport neues Reglement!</i>			2 hrs	<b>C. Elmiger-Schnyder</b> , further lecturers
<b>557-0605-01L</b>	<b>Snowsports II - Ski</b> <i>Prerequisite: Basic course Snowsports I passed.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
557-0605-01 G	<i>Only for students in Health Sciences and Technology and Teaching Diploma Sports.</i> Schneesport II - Ski ■ <i>Blockwoche in Davos vom 09.01.2022 bis 14.01.2022 Separate Anmeldung über Studiensekretariat HST nötig!</i>			2 hrs	<b>C. Elmiger-Schnyder</b> , further lecturers
<b>557-0605-02L</b>	<b>Snowsports II - Snowboard</b> <i>Prerequisite: Basic course Snowsports I passed.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
557-0605-02 G	<i>Only for students in Health Sciences and Technology and Teaching Diploma Sports.</i> Schneesport II - Snowboard ■ <i>Blockwoche in Davos vom 09.01.2022 bis 14.01.2022 Separate Anmeldung über Studiensekretariat HST nötig!</i>			2 hrs	<b>C. Elmiger-Schnyder</b> , further lecturers
<b>557-0605-03L</b>	<b>Snowsports II - Telemark</b> <i>Prerequisite: Basic course Snowsports I passed.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
557-0605-03 G	<i>Only for students in Health Sciences and Technology and Teaching Diploma Sports.</i> Schneesport II - Telemark ■ <i>Blockwoche in Davos vom 09.01.2022 - 14.01.2022 Separate Anmeldung über Studiensekretariat HST nötig!</i>			2 hrs	<b>C. Elmiger-Schnyder</b> , further lecturers
<b>557-0605-04L</b>	<b>Snowsports II - Off-piste</b> <i>Prerequisite: Basic course Snowsports I passed.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>	
557-0605-04 G	<i>Only for students in Health Sciences and Technology and Teaching Diploma Sports.</i> Schneesport II - Offpist ■ <i>Blockwoche in Davos vom 09.01.2022 - 14.01.2022 Separate Anmeldung über Studiensekretariat HST nötig!</i>			2 hrs	<b>C. Elmiger-Schnyder</b> , further lecturers

## ► Additional Requirements in Sports Science

Number	Title	Type	ECTS	Hours	Lecturers
<b>376-0203-00L</b>	<b>Movement and Sport Biomechanics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>	
376-0203-00 G	Bewegungs- und Sportbiomechanik <i>Die Vorlesungen und Übungen finden im HS21 grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>  <i>Vorlesung: Fr 14-16 Übungen: Fr 16-17</i>			3 hrs Fri 14-16 16-17	<b>B. Taylor</b> , R. List HCI J3 HCP E47.3 HIT F31.2 HIT F32 HIT H51 HIT J51 HIT J52 HIT J53 HIT K52
<b>376-0207-00L</b>	<b>Exercise Physiology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>	
376-0207-00 G	Sportphysiologie <i>Der Hörsaal I35-F-32 steht zur Verfügung, um der Vorlesung via zoom auf dem eigenen Laptop zu folgen.</i>			3 hrs Thu 14-17	<b>C. Spengler</b> , R. M. Rossi I17 M5 I35 F32
<b>376-1033-00L</b>	<b>History of Sports</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>	
376-1033-00 V	Sportgeschichte			2 hrs Thu 16-18	<b>M. Gisler</b> HG E33.3
<b>376-1107-00L</b>	<b>Sport Pedagogy</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>	
376-1107-00 V	Sportpädagogik <i>Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs Thu 10-12	<b>C. Herrmann</b> NO C44

<b>376-1117-00L</b>	<b>Sport Psychology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
376-1117-00 V	Sportpsychologie <i>Exkursion: Sa 18.12.2021 Skispringen Weltcup Engelberg (Die Termine 12.10./19.10./16.11. entfallen)</i>			2 hrs	Tue	14-16	HG E1.2	<b>H. Gubelmann</b>	
<b>376-1127-00L</b>	<b>Sociology of Sport</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
376-1127-00 V	Sportsoziologie			2 hrs	Thu	08-10	NO C6	<b>R. Bürgi, M. Lamprecht</b>	
<b>376-0130-00L</b>	<b>Laboratory Course in Exercise Physiology</b> <i>Number of participants limited to 48.</i>	<b>W</b>	<b>3 credits</b>	<b>4P</b>					
	<i>HST: Possible from the 5th semester on.</i>								
376-0130-00 P	Praktikum Sportphysiologie <b>*** BITTE BEACHTEN ***:</b> Aufgrund der Unsicherheiten bezüglich Pandemie-Lage wird evtl. die maximale Belegung des Praktikums kurzfristig reduziert. Die Zulassung zum Praktikum erfolgt in diesem Fall entsprechend des Belegungstermins.  <i>Die Veranstaltung findet wöchentlich statt, in- und ausserhalb Zürichs. Details zum Praktikumsablauf werden in der Woche vor Praktikumsbeginn schriftlich bekanntgegeben. Der Besuch aller Praktikumstage ist obligatorisch. Für absehbare, zwingende Abwesenheiten ist bis spätestens 4 Wochen vor Semesterbeginn ein schriftliches Gesuch einzureichen.</i>			4 hrs	Thu	08-12	I17 M5	<b>C. Spengler</b>	
<b>376-2019-00L</b>	<b>Applied Movement Analysis</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
376-2019-00 G	Angewandte Bewegungsanalyse			2 hrs	Tue	10-12	HPS C21.3 HPS D29	<b>R. Scharpf, P. Schütz</b>	

#### Sport Teaching Diploma - Key for Type

O	Compulsory	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	W+	Eligible for credits and recommended
Z	Courses outside the curriculum	W	Eligible for credits

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

# Public Policy Bachelor

## ► 1. Semester

### ►► Core Courses First Year Examinations

#### ►►► Examination Block 1

*Students are free to take the exam either in German or in French. They may choose between 853-0723-00L 'Introduction to Torts, Contract and Insurance Law' or 851-0709-00L 'Introduction to Civil Law' (French)*

Number	Title	Type	ECTS	Hours					Lecturers
<b>853-0723-00L</b>	<b>Introduction to Torts, Contracts and Insurance Law</b> <i>Only for Public Policy BA.</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
853-0723-00 V	Privatrecht - Einführung in das Haftpflicht- und Versicherungsrecht ■			2 hrs	Wed	08-10	CHN D48		<b>C. von Zedtwitz</b>
<b>851-0709-00L</b>	<b>Introduction to Civil Law</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0709-00 V	Introduction au Droit civil <i>Mit Erklärungen auch in italienischer Sprache.</i>			2 hrs	Mon	18-20	HG F1		<b>H. Peter</b>
<b>851-0577-00L</b>	<b>Principles of Political Science</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>					
851-0577-00 V	Politikwissenschaft: Grundlagen			2 hrs	Fri	14-16	ETZ E8		<b>T. Bernauer</b>
851-0577-00 U	Politikwissenschaft: Grundlagen			1 hrs	Fri	16-17	ETZ E8		<b>T. Bernauer</b>
<b>853-0033-00L</b>	<b>Leadership I</b> <i>For BA Public Policy and DAS Military Sciences only.</i>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					
853-0033-00 V	Leadership I ■			2 hrs	Tue	16-18	LEE E101		<b>F. Kernic, F. Demont, M. Holenweger</b>

#### ►►► Examination Block 2

Number	Title	Type	ECTS	Hours					Lecturers
<b>351-1034-00L</b>	<b>Microeconomics</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					
351-1034-00 V	Mikroökonomie (VWL) ■ <i>The lecture takes place in classroom, online via livestreaming or zoom, not recorded.</i>			2 hrs	Thu	08-10	IFW A34		<b>A. Fetz, M. Gysler</b>
<b>853-0725-00L</b>	<b>History Part One: Europe (The Cradle of Modernity, Britain, 1789-1914)</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					
853-0725-00 V	Geschichte I: Europa (Grossbritannien, Mutterland der Moderne, 1789-1914)			2 hrs	Wed	14-16	ML E12		<b>H. Fischer-Tiné</b>
<b>853-0037-00L</b>	<b>Military Psychology and Pedagogy I</b> <i>Only for Public Policy BA</i>	<b>O</b>	<b>4 credits</b>	<b>2V+3U</b>					
853-0037-00 V	Militärpsychologie und -pädagogik I			2 hrs	Tue	10-12	HG E33.3		<b>H. Annen</b>
853-0037-00 U	Militärpsychologie und -pädagogik I (Übungswoche) <i>Gemäss separatem Programm.</i>			40s hrs					<b>H. Annen</b>

### ►► Remaining Core Courses of the Bachelor Programme

Number	Title	Type	ECTS	Hours					Lecturers
<b>853-0205-00L</b>	<b>Proseminar I: Political Methodology</b> <i>Only for Public Policy BA</i>	<b>O</b>	<b>3 credits</b>	<b>2S</b>					
853-0205-00 S	Proseminar I ■ <i>Permission from lecturers required for all students</i>			2 hrs	Thu	10-12	IFW D42		<b>F. M. Lichtin, S. Gomm</b>
<b>853-0064-00L</b>	<b>Military Sociology I</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>					
853-0064-00 V	Militärsoziologie I			2 hrs	Mon	14-16	IFW A32.1		<b>T. Szvircsev Tresch, S. De Rosa, T. Ferst</b>

## ►► Languages

### ►►► First Foreign Language

Number	Title	Type	ECTS	Hours					Lecturers
<b>853-0405-00L</b>	<b>English, Part I</b> <i>Only for Public Policy BA</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					
853-0405-00 G	Sprachunterricht Englisch, Teil I ■ <i>Die Vorlesung findet in 2 Gruppen statt. Einteilung zu Semesterbeginn. Obligatorische Übungswoche im Zwischensemester. 2 Stunden Vorlesung, 2 Stunden individuelle Arbeit der Studierenden in Anwesenheit des Dozenten.</i>			2 hrs	Fri/2w	08-12	CHN G22 CHN G46		<b>S. Schweizer</b>

## ► 3. Semester

### ►► Remaining Core Courses of the Bachelor Programme

Number	Title	Type	ECTS	Hours					Lecturers
<b>853-0015-00L</b>	<b>Conflict Research I: Political Violence</b> <i>Only for Public Policy BA.</i>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>					
853-0015-00 V	Konfliktforschung I: Politische Gewalt ■			2 hrs	Wed	14-16	LFW B3		<b>A. Juon</b>
853-0015-00 U	Konfliktforschung I: Politische Gewalt ■			1 hrs	Wed	16-17	LFW B3		<b>A. Juon</b>
<b>853-0047-00L</b>	<b>World Politics Since 1945: The History of International Relations</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>					

Only for Public Policy BA and DAS Military Sciences

853-0047-00 V	Weltpolitik seit 1945: Geschichte der internationalen Beziehungen	2 hrs	Wed	10-12	CAB G11	<b>L. Horovitz</b>
853-0047-00 U	Übungen zu Weltpolitik seit 1945: Geschichte der internationalen Beziehungen	1 hrs	Wed	09-10	CAB G11	<b>A. Dossi</b>
<b>853-0065-00L</b>	<b>Business Administration I</b>	<b>O</b>	<b>4 credits</b>	<b>3V</b>		
853-0065-00 V	Betriebswirtschaftslehre I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>	3 hrs	Mon	08-11	ML F34	<b>P. Barmettler</b>
<b>853-0063-00L</b>	<b>Military History I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+3U</b>		
853-0063-00 V	Militärgeschichte I <i>Only for Public Policy BA</i>	2 hrs	Mon	16-18	HG D3.2	<b>A. Wettstein</b> , T. Cubito, M. Olsansky
853-0063-00 U	Militärgeschichte I (Übungswoche) <i>Gemäss separatem Programm.</i>	40s hrs	by appt.			<b>A. Wettstein</b> , T. Cubito
<b>853-0082-00L</b>	<b>Strategic Studies I</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>		
853-0082-00 V	Strategische Studien I	2 hrs	Tue	14-16	IFW A36	<b>M. Mantovani</b>
<b>853-0302-00L</b>	<b>European Integration</b>	<b>O</b>	<b>4 credits</b>	<b>1U+2S</b>		
853-0302-00 U	Europäische Integration: Tutorat <i>Only for Public Policy BA.</i>	1 hrs	Tue	11-12	CHN E42	<b>R. Sczepanski</b>
853-0302-00 S	Europäische Integration: Seminar	2 hrs	Tue	09-11	CHN E42	<b>R. Sczepanski</b>
<b>853-0101-02L</b>	<b>Defense Economics I</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>		
853-0101-02 V	Militärökonomie I	2 hrs	Mon	12-14	HG F26.5	<b>M. M. Keupp</b>

## ►► Languages

### ►►► First Foreign Language

Number	Title	Type	ECTS	Hours				Lecturers
<b>853-0416-00L</b>	<b>English, Part III</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
853-0416-00 G	Sprachunterricht Englisch, Teil III ■ <i>Only for Public Policy BA</i> <i>Obligatorische Übungswoche im Zwischensemester. Die Vorlesung findet in 2 Gruppen statt. Einteilung zu Semesterbeginn. 2 Stunden Vorlesung, 2 Stunden individuelle Arbeit der Studierenden in Anwesenheit des Dozenten.</i>			2 hrs	Fri/2w	08-12	IFW B42 IFW C35	<b>S. Schweizer</b>

## ► 5. Semester

### ►► Remaining Core Courses of the Bachelor's Programme

Number	Title	Type	ECTS	Hours				Lecturers
<b>853-0049-00L</b>	<b>Introduction to Constitutional Law in Security Policy</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
853-0049-00 V	Staatsrechtliche Grundlagen der Sicherheitspolitik			2 hrs	Wed	10-12	IFW C31	<b>R. Müller</b>
<b>853-0038-00L</b>	<b>Swiss Foreign Policy</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
853-0038-00 V	Schweizerische Aussenpolitik			2 hrs	Fri	14-16	CAB G51	<b>D. Möckli</b>
<b>853-0321-00L</b>	<b>Advanced Course II (Seminar)</b>	<b>O</b>	<b>4 credits</b>	<b>3S</b>				
853-0321-00 S	Seminar II ■ <i>Only for Public Policy BA</i> <i>Permission from lecturers required for all students</i> <i>Das Seminar wird mehrfach geführt.</i>			3 hrs	Thu	09-12	IFW C31 IFW C35	<b>E. Nussio</b> , M. M. Keupp
<b>853-0061-00L</b>	<b>Introduction to Cybersecurity Politics</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
853-0061-00 G	Einführung in die Cybersicherheitspolitik			2 hrs	Wed	14-16	HG F3	<b>M. Dunn Cavelty</b> , F. J. Egloff
<b>853-0046-00L</b>	<b>Social Psychology of Groups</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
853-0046-00 V	Sozialpsychologie der Gruppe ■ <i>Permission from lecturers required for all students</i>			2 hrs	Tue 05.10.	10-12 14-16	IFW A34 IFW C42	<b>T. Heilmann</b>

## ►► Languages

### ►►► Second Foreign Language

Number	Title	Type	ECTS	Hours				Lecturers
<b>853-0402-00L</b>	<b>German, Part II</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
853-0402-00 G	Sprachunterricht Deutsch, Teil II <i>Only for Public Policy BA</i> <i>Start am Freitag, 01.10.2021.</i> <i>Zusätzlich eine obligatorische Übungswoche im Zwischensemester</i>			2 hrs	Fri/2w	08-12	IFW B42	<b>S. Schweizer</b>
<b>853-0404-00L</b>	<b>French, Part II</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
853-0404-00 G	Sprachunterricht Französisch, Teil II <i>Only for Public Policy BA</i> <i>Die Vorlesung findet in 2 Gruppen statt. Einteilung zu Semesterbeginn.</i> <i>Obligatorische Übungswoche im Zwischensemester.</i>			2 hrs	Fri	08-10 10-12	IFW D42 IFW D42	<b>S. Schweizer</b>

## ►► Bachelor's Colloquium and Bachelor's Thesis

Number	Title	Type	ECTS	Hours					Lecturers
<b>853-0315-00L</b>	<b>BA Colloquium</b> <i>Only for BA Public Policy.</i>	<b>O</b>	<b>2 credits</b>	<b>2K</b>					
853-0315-00 K	Bachelor-Kolloquium ■ <i>Permission from lecturers required for all students</i>			2 hrs	Thu	14-16	IFW D42		<b>F. Schimmelfennig</b>
<b>853-0654-00L</b>	<b>Bachelor's Thesis</b>	<b>O</b>	<b>10 credits</b>	<b>8D</b>					
853-0654-00 D	Bachelor-Arbeit ■ <i>Permission from lecturers required for all students</i>			8 hrs	by appt.				Lecturers

## ► Electives

### ►► Recommended Elective Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>853-8002-00L</b>	<b>The Role of Technology in National and International Security Policy</b>	<b>W+</b>	<b>3 credits</b>	<b>2G</b>					
853-8002-00 G	Die Rolle von Technologie in nationaler und internationaler Sicherheitspolitik			2 hrs	Tue	08-10	IFW A36		<b>M. Haas, A. Dossi, M. Leese, O. Thränert</b>

### ►► Additional Elective Courses

*These Electives may be chosen from the start of the Bachelor Study Programme.*

Number	Title	Type	ECTS	Hours					Lecturers
<b>376-1033-00L</b>	<b>History of Sports</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
376-1033-00 V	Sportgeschichte			2 hrs	Thu	16-18	HG E33.3		<b>M. Gisler</b>
<b>376-1107-00L</b>	<b>Sport Pedagogy</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
376-1107-00 V	Sportpädagogik <i>Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Thu	10-12	NO C44		<b>C. Herrmann</b>
<b>376-1117-00L</b>	<b>Sport Psychology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
376-1117-00 V	Sportpsychologie <i>Exkursion: Sa 18.12.2021 Skispringen Weltcup Engelberg (Die Termine 12.10./19.10./16.11. entfallen)</i>			2 hrs	Tue	14-16	HG E1.2		<b>H. Gubelmann</b>
<b>376-1127-00L</b>	<b>Sociology of Sport</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
376-1127-00 V	Sportsoziologie			2 hrs	Thu	08-10	NO C6		<b>R. Bürgi, M. Lamprecht</b>
<b>851-0589-00L</b>	<b>Technology and Innovation for Development</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
851-0589-00 V	Technology and Innovation for Development			2 hrs	Tue	12-14	LEE D101		<b>P. Aerni</b>
<b>860-0023-00L</b>	<b>International Environmental Politics</b> <i>Particularly suitable for students of D-ITET, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3		<b>T. Bernauer</b>
<b>363-0341-00L</b>	<b>Introduction to Management</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
363-0341-00 G	Introduction to Management <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			2 hrs	Thu	16-18	HG F7		<b>Z. Zagorac-Uremovic, J. O'Neil</b>
<b>851-0735-10L</b>	<b>Business Law</b> <i>Number of participants limited to 100</i>  <i>Particularly suitable for students of D-ITET, D-MAVT</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0735-10 V	Wirtschaftsrecht			2 hrs	Thu	14-16	HG D1.2		<b>P. Peyrot</b>
<b>101-0515-00L</b>	<b>Project Management</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
101-0515-00 G	Projektmanagement			2 hrs	Fri	14-16	HIL E1		<b>C. G. C. Marxt</b>
<b>701-0985-00L</b>	<b>Social Intercourse with Current Environmental Risks</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					
701-0985-00 V	Gesellschaftlicher Umgang mit aktuellen Umweltrisiken <i>Does not take place this semester.</i>			1 hrs					<b>B. Nowack</b>
<b>701-0703-00L</b>	<b>Environmental Ethics</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
701-0703-00 V	Ethik und Umwelt			2 hrs	Fri	12-14	HG F7		<b>A. Deplazes Zemp</b>
<b>151-0757-00L</b>	<b>Environmental Management</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
151-0757-00 G	Umwelt-Management <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Wed	18-20	ML D28		<b>R. Züst</b>
<b>851-0180-00L</b>	<b>Research Ethics</b> <i>Number of participants limited to 40</i>  <i>Particularly suitable for students of D-BIOL, D-CHAB, D-HEST</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
851-0180-00 G	Research Ethics ■ <i>One additional hour of home work per week will be required</i>			2 hrs	Wed	18-20	LFW C1		<b>G. Achermann, P. Emch</b>



851-0861-01L Arabic I A1.1 W 2 credits 3G

No enrolment to this course at ETH Zurich.  
Book the corresponding course directly at  
"Language Center of UZH and ETH  
Zürich".

Course fees:  
<https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html>

Registration dates:  
<https://www.sprachenzentrum.uzh.ch/en/angebot.html>

851-0861-01 G Arabisch I A1.1 (Sprachenzentrum) 3 hrs University lecturers  
\*\*Kurs vom Sprachenzentrum der UZH und der ETH Zürich\*\*

#### Public Policy Bachelor - Key for Type

Dr	Suitable for doctorate	W	Eligible for credits
O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Statistics Master

The following courses belong to the curriculum of the Master's Programme in Statistics. The corresponding credits do not count as external credits even for course units where an enrolment at ETH Zurich is not possible.

## ► Master Studies (Programme Regulations 2020)

### ►► Core Courses

#### ►►► Statistical Modelling

Number	Title	Type	ECTS	Hours				Lecturers
401-3622-00L	Statistical Modelling	W	8 credits	4G				C. Heinze-Deml
401-3622-00 G	Statistical Modelling			4 hrs	Mon Thu	10-12 14-16	ML D28 HG E1.1	
401-4623-00L	Time Series Analysis	W	6 credits	3G				F. Balabdaoui
401-4623-00 G	Time Series Analysis			3 hrs				
Does not take place this semester.								

#### ►►► Applied Statistics

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>				<b>L. Meier</b>
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon	14-16	HG G5	
401-0625-01 U	Applied Analysis of Variance and Experimental Design			1 hrs	Mon/2w	16-18	HG E1.1	<b>L. Meier</b>

#### ►►► Mathematical Statistics

Number	Title	Type	ECTS	Hours				Lecturers
401-3621-00L	Fundamentals of Mathematical Statistics	W	10 credits	4V+1U				
401-3621-00 V	Fundamentals of Mathematical Statistics			4 hrs	Tue	08-10	HG E5	S. van de Geer
					Wed	10-12	HG E7	
401-3621-00 U	Fundamentals of Mathematical Statistics			1 hrs	Tue	12-13	HG D7.1 HG E7	S. van de Geer
401-8623-00L	Likelihood Inference (University of Zurich)	W	5 credits	3G				
	No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: STA402							
	Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a>							
401-8623-00 G	Likelihood Inference (University of Zurich)			3 hrs				
	**Course at University of Zurich**							
	University lecturers							

#### ►► Subject Specific Electives

Number	Title	Type	ECTS	Hours					Lecturers
401-3601-00L	<b>Probability Theory</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.</i>	W	10 credits	4V+1U					
401-3601-00 V	Probability Theory			4 hrs	Tue	10-12	HG D1.2	W. Werner	
					Thu	10-12	HG E3		
401-3601-00 U	Probability Theory <i>Groups are selected in myStudies. Tue 14-15 or Tue 15-16 starting in the second week of the semester.</i>			1 hrs	Tue	14-15	HG F26.5 ML H41.1	W. Werner	
						15-16	HG F26.5 ML H41.1		
401-3627-00L	<b>High-Dimensional Statistics</b>	W	4 credits	2V					
401-3627-00 V	High-Dimensional Statistics			2 hrs	Thu	08-10	CAB G61	P. L. Bühlmann	
401-3612-00L	<b>Stochastic Simulation</b>	W	5 credits	3G					
401-3612-00 G	Stochastic Simulation <i>Does not take place this semester.</i>			3 hrs					
401-4633-00L	<b>Data Analytics in Organisations and Business</b>	W	5 credits	2V+1U					
401-4633-00 V	Data Analytics in Organisations and Business			2 hrs	Fri	14-16	HG G5	I. Flückiger	
401-4633-00 U	Data Analytics in Organisations and Business			1 hrs	Fri/2w	16-18	HG G5	I. Flückiger	
401-6217-00L	<b>Using R for Data Analysis and Graphics (Part II)</b>	W	1.5 credits	1G					
401-6217-00 G	Using R for Data Analysis and Graphics (Part II)			14s hrs	Tue/2	14-16	CAB G11	M. Mächler	

<b>401-0627-00L</b>	<b>Smoothing and Nonparametric Regression with Examples</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
401-0627-00 G	Smoothing and Nonparametric Regression with Examples <i>Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from Zentrum campus. Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	14-16	ETZ F91	<b>S. Beran-Ghosh</b>	
<b>447-6289-00L</b>	<b>Sampling Surveys</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	<b>W</b>	<b>2 credits</b>	<b>1G</b>					
447-6289-00 G	Stichproben-Erhebungen ■ <i>Does not take place this semester. Blockkurs. Weitere Informationen unter <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			17.5s hrs					
<b>401-3628-14L</b>	<b>Bayesian Statistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3628-14 V	Bayesian Statistics			2 hrs	Tue	16-18	HG G3	<b>F. Sigrist</b>	
<b>401-3901-00L</b>	<b>Linear &amp; Combinatorial Optimization</b>	<b>W</b>	<b>11 credits</b>	<b>4V+2U</b>					
401-3901-00 V	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			4 hrs	Wed Thu	12-14 10-12	HG G5 HG G5	<b>R. Zenklusen</b>	
401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>			2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>	
<b>401-4944-20L</b>	<b>Mathematics of Data Science</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>					
401-4944-20 G	Mathematics of Data Science			4 hrs	Thu Fri	12-14 10-12	HG G3 HG G5	<b>A. Bandeira</b>	
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>					
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>			3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann,</b> C. Cotrini Jimenez	
252-0535-00 U	Advanced Machine Learning			2 hrs	Wed Thu Fri	14-16 16-18 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez	
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>			4 hrs				<b>J. M. Buhmann,</b> C. Cotrini Jimenez	
<b>252-3005-00L</b>	<b>Natural Language Processing</b> <i>Number of participants limited to 400.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>					
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>			2 hrs	Mon	12-14	HG F7	<b>R. Cotterell</b>	
252-3005-00 U	Natural Language Processing			2 hrs	Wed	12-14	HG F7	<b>R. Cotterell</b>	
252-3005-00 A	Natural Language Processing			1 hrs				<b>R. Cotterell</b>	
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
227-0423-00 V	Neural Network Theory			2 hrs	Tue	10-12	HG F5	<b>H. Bölcskei</b>	
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on: <a href="https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html">https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html</a>. The reserved room is meant for those students who want to follow the course from the campus.</i>			1 hrs	Tue	12-13	HG F5	<b>H. Bölcskei</b>	
<b>401-6282-00L</b>	<b>Statistical Analysis of High-Throughput Genomic and Transcriptomic Data (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: STA426</i>	<b>W</b>	<b>5 credits</b>	<b>3G</b>					
401-6282-00 G	Statistical Analysis of High-Throughput Genomic and Transcriptomic Data (University of Zurich) <i>**Course at University of Zurich**</i>			3 hrs	Mon	09-12	UNI ZH.	<b>H. Rehrauer, M. Robinson</b>	
<b>401-8625-00L</b>	<b>Clinical Biostatistics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student.</i>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					

Mind the enrolment deadlines at UZH:  
<https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html>

401-8625-00 G	Clinical Biostatistics (University of Zurich) **Course at University of Zurich**	4 hrs	Thu	09-10 10-12 15-16	UNI ZH. UNI ZH. UNI ZH.	University lecturers
<b>263-3210-00L</b>	<b>Deep Learning</b> <i>Number of participants limited to 320.</i>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>		
263-3210-00 V	Deep Learning			3 hrs	Wed 13-14 14-16	ML D28 ML D28
263-3210-00 U	Deep Learning			2 hrs	Mon 16-18 Wed	HG G5 ML D28
263-3210-00 A	Deep Learning			2 hrs		
<b>263-5210-00L</b>	<b>Probabilistic Artificial Intelligence</b>	<b>W</b>	<b>8 credits</b>	<b>3V+2U+2A</b>		
263-5210-00 V	Probabilistic Artificial Intelligence <i>Fr 10-12 und 13-14 im ETA F5 mit Videoübertragung ins ETF E1</i>			3 hrs	Fri 10-12 13-14	ETA F5 ETF E1 ETA F5 ETF E1
263-5210-00 U	Probabilistic Artificial Intelligence <i>Q&amp;A session: Monday, 17-18, via zoom</i>			2 hrs	Thu 16-18	CHN C14
263-5210-00 A	Probabilistic Artificial Intelligence			2 hrs		

## ►► Free Electives

Several further courses offered at the University of Zurich belong to the curriculum of the Master's Programme in Statistics. With the consent by the Advisor (<http://stat.ethz.ch/~kalisch/>) such a course is eligible as a free elective.

Course Catalogue

## ► Master Studies (Programme Regulations 2014)

### ►► Core Courses

In each subject area, the core courses offered are normally mathematical as well as application-oriented in content. For each subject area, only one of these is recognised for the Master degree.

### ►►► Regression

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-0649-00L</b>	<b>Applied Statistical Regression</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>	
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon 08-10
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>			1 hrs	Mon/2w 10-12
<b>401-3622-00L</b>	<b>Statistical Modelling</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>	
401-3622-00 G	Statistical Modelling			4 hrs	Mon 10-12 Thu

### ►►► Analysis of Variance and Design of Experiments

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>	
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon 14-16
401-0625-01 U	Applied Analysis of Variance and Experimental Design			1 hrs	Mon/2w 16-18

### ►►► Multivariate Statistics

No course offerings in this semester.

### ►►► Time Series and Stochastic Processes

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-4623-00L</b>	<b>Time Series Analysis</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>	
401-4623-00 G	Time Series Analysis <i>Does not take place this semester.</i>			3 hrs	

### ►►► Mathematical Statistics

Number	Title	Type	ECTS	Hours	Lecturers
<b>401-3621-00L</b>	<b>Fundamentals of Mathematical Statistics</b>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>	
401-3621-00 V	Fundamentals of Mathematical Statistics			4 hrs	Tue 08-10 Wed
401-3621-00 U	Fundamentals of Mathematical Statistics			1 hrs	Tue 12-13
<b>401-8623-00L</b>	<b>Likelihood Inference (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: STA402</i>	<b>W</b>	<b>5 credits</b>	<b>3G</b>	

Mind the enrolment deadlines at UZH:

## ►► Specialization Areas and Electives

### ►►► Statistical and Mathematical Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-3601-00L</b>	<b>Probability Theory</b> <i>At most one of the three course units (Bachelor Core Courses) 401-3461-00L Functional Analysis I 401-3531-00L Differential Geometry I 401-3601-00L Probability Theory can be recognised for the Master's degree in Mathematics or Applied Mathematics. In this case, you cannot change the category assignment by yourself in myStudies but must take contact with the Study Administration Office (www.math.ethz.ch/studiensekretariat) after having received the credits.</i>	<b>W</b>	<b>10 credits</b>	<b>4V+1U</b>					
401-3601-00 V	Probability Theory			4 hrs	Tue	10-12	HG D1.2		<b>W. Werner</b>
					Thu	10-12	HG E3		
401-3601-00 U	Probability Theory <i>Groups are selected in myStudies. Tue 14-15 or Tue 15-16 starting in the second week of the semester.</i>			1 hrs	Tue	14-15	HG F26.5 ML H41.1		<b>W. Werner</b>
						15-16	HG F26.5 ML H41.1		
<b>401-3627-00L</b>	<b>High-Dimensional Statistics</b>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
401-3627-00 V	High-Dimensional Statistics			2 hrs	Thu	08-10	CAB G61		<b>P. L. Bühlmann</b>
<b>401-3612-00L</b>	<b>Stochastic Simulation</b>	<b>W</b>	<b>5 credits</b>	<b>3G</b>					
401-3612-00 G	Stochastic Simulation <i>Does not take place this semester.</i>			3 hrs					
<b>401-4633-00L</b>	<b>Data Analytics in Organisations and Business</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-4633-00 V	Data Analytics in Organisations and Business			2 hrs	Fri	14-16	HG G5		<b>I. Flückiger</b>
401-4633-00 U	Data Analytics in Organisations and Business			1 hrs	Fri/2w	16-18	HG G5		<b>I. Flückiger</b>
<b>401-6217-00L</b>	<b>Using R for Data Analysis and Graphics (Part II)</b>	<b>W</b>	<b>1.5 credits</b>	<b>1G</b>					
401-6217-00 G	Using R for Data Analysis and Graphics (Part II)			14s hrs	Tue/2	14-16	CAB G11		<b>M. Mächler</b>
<b>401-0627-00L</b>	<b>Smoothing and Nonparametric Regression with Examples</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>					
401-0627-00 G	Smoothing and Nonparametric Regression with Examples <i>Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from Zentrum campus. Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	14-16	ETZ F91		<b>S. Beran-Ghosh</b>
<b>447-6221-00L</b>	<b>Nonparametric Regression</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	<b>W</b>	<b>1 credit</b>	<b>1G</b>					
447-6221-00 G	Nichtparametrische Regression ■ <i>Does not take place this semester. Blockkurs. Weitere Informationen unter <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			10.5s hrs					<b>M. Mächler</b>
<b>447-6233-00L</b>	<b>Spatial Statistics</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	<b>W</b>	<b>1 credit</b>	<b>1G</b>					
447-6233-00 G	Spatial Statistics ■ <i>Does not take place this semester. Block course. For further information see <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a></i>			10.5s hrs					
<b>447-6245-00L</b>	<b>Data Mining</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in</i>	<b>W</b>	<b>1 credit</b>	<b>1G</b>					

447-6245-00 G	Data-Mining ■	14s hrs	M. Mächler
Does not take place this semester.			
Blockkurs. Weitere Informationen unter <a href="http://stat.ethz.ch/wbl/wbl">http://stat.ethz.ch/wbl/wbl</a>			

Data: 29.09.2021 12:38      Autumn Semester 2021      Page 750 of 805

401-3901-00 U	Linear & Combinatorial Optimization (Mathematical Optimization) <i>Groups are selected in myStudies. Thu 14-16 or Fri 10-12 or Fr 12-14 or Fri 14-16 (depending on demand)</i>	2 hrs	Thu Fri	14-16 10-12 12-14 14-16	HG F26.5 CAB G51 HG D3.2 HG F26.5	<b>R. Zenklusen</b>	
<b>401-4944-20L</b>	<b>Mathematics of Data Science</b>	<b>W</b>	<b>8 credits</b>	<b>4G</b>			
401-4944-20 G	Mathematics of Data Science		4 hrs	Thu Fri	12-14 10-12	HG G3 HG G5	<b>A. Bandeira</b>
<b>252-0535-00L</b>	<b>Advanced Machine Learning</b>	<b>W</b>	<b>10 credits</b>	<b>3V+2U+4A</b>			
252-0535-00 V	Advanced Machine Learning <i>Freitag 8-10 HG F1 mit Videoübertragung ins HG F3 Donnerstag 15-16 ETA F 5 mit Videoübertragung ins ETF E 1</i>		3 hrs	Thu Fri	15-16 08-10	ETA F5 ETF E1 HG F1 HG F3	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 U	Advanced Machine Learning		2 hrs	Wed Thu Fri	14-16 16-18 16-18 14-16	CAB G61 CAB G61 ML F34 CAB G61	<b>J. M. Buhmann,</b> C. Cotrini Jimenez
252-0535-00 A	Advanced Machine Learning <i>Project Work, no fixed presence required.</i>		4 hrs				<b>J. M. Buhmann,</b> C. Cotrini Jimenez
<b>252-3005-00L</b>	<b>Natural Language Processing</b> <i>Number of participants limited to 400.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+2U+1A</b>			
252-3005-00 V	Natural Language Processing <i>From HS21 in the autumn semester.</i>		2 hrs	Mon	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 U	Natural Language Processing		2 hrs	Wed	12-14	HG F7	<b>R. Cotterell</b>
252-3005-00 A	Natural Language Processing		1 hrs				<b>R. Cotterell</b>
<b>227-0423-00L</b>	<b>Neural Network Theory</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>			
227-0423-00 V	Neural Network Theory		2 hrs	Tue	10-12	HG F5	<b>H. Bölcskei</b>
227-0423-00 U	Neural Network Theory <i>The exercise will take place online on: https://www.mins.ee.ethz.ch/teaching/nnt/downloads/index.html. The reserved room is meant for those students who want to follow the course from the campus.</i>		1 hrs	Tue	12-13	HG F5	<b>H. Bölcskei</b>
<b>401-6282-00L</b>	<b>Statistical Analysis of High-Throughput Genomic and Transcriptomic Data (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: STA426</i>  <i>Mind the enrolment deadlines at UZH: https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</i>	<b>W</b>	<b>5 credits</b>	<b>3G</b>			
401-6282-00 G	Statistical Analysis of High-Throughput Genomic and Transcriptomic Data (University of Zurich) <b>**Course at University of Zurich**</b>		3 hrs	Mon	09-12	UNI ZH.	<b>H. Rehrauer, M. Robinson</b>
<b>401-8625-00L</b>	<b>Clinical Biostatistics (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: STA404</i>  <i>Mind the enrolment deadlines at UZH: https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</i>	<b>W</b>	<b>6 credits</b>	<b>4G</b>			
401-8625-00 G	Clinical Biostatistics (University of Zurich) <b>**Course at University of Zurich**</b>		4 hrs	Thu	09-10 10-12 15-16	UNI ZH. UNI ZH. UNI ZH.	University lecturers
<b>447-6201-00L</b>	<b>Nonparametric and Resampling Methods</b> <i>Special Students "University of Zurich (UZH)" in the Master Program in Biostatistics at UZH cannot register for this course unit electronically. Forward the lecturer's written permission to attend to the Registrar's Office. Alternatively, the lecturer may also send an email directly to registrar@ethz.ch. The Registrar's Office will then register you for the course.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>			
447-6201-00 G	Nonparametric and Resampling Methods <i>Block course on: 17.01.2022 / 24.01.2022 / 31.01.2022 Lectures: 8-10 and 14-16 Exercises: 10-12 and 16-18</i>		21s hrs	17.01. 24.01. 31.01.	08-18 08-18 08-18	HG D1.1 HG D1.1 HG D1.1	<b>L. Meier,</b> D. Kuonen

### ▶▶▶ Statistical and Mathematical Courses: not eligible for credits

Number	Title	Type	ECTS	Hours				Lecturers
401-6215-00L	Using R for Data Analysis and Graphics (Part I)	E-	1.5 credits	1G				
401-6215-00 G	Using R for Data Analysis and Graphics (Part I)			14s hrs	Tue/1	14-16	CAB G11	M. Mächler

### ▶▶▶ Application Areas

Students select one area of application and look for suitable courses in which quantitative methods and modeling play a role. They need the consent by the Advisor (<http://stat.ethz.ch/~kalisch/>) that the chosen courses are eligible in the category "Application Areas".

For the category assignment of eligible courses keep the choice "no category" and take contact with the Study Administration Office ([www.math.ethz.ch/studiensekretariat/staff/ekuenti](http://www.math.ethz.ch/studiensekretariat/staff/ekuenti)) after having received the credits. The Study Administration Office needs the Advisor's consent.

## ► Seminar or Semester Paper

Number	Title	Type	ECTS	Hours				Lecturers
401-3620-20L	<b>Student Seminar in Statistics: Inference in Some Non-Standard Regression Problems</b> <i>Number of participants limited to 24. Mainly for students from the Mathematics Bachelor and Master Programmes who, in addition to the introductory course unit 401-2604-00L Probability and Statistics, have heard at least one core or elective course in statistics. Also offered in the Master Programmes Statistics resp. Data Science.</i>	W	4 credits	2S				
401-3620-00 S	Student Seminar in Statistics: Inference in Some Non-Standard Regression Problems <i>Remark: former title in FS 2020: Student Seminar in Statistics: Inference in Non-Classical Regression Models</i>			2 hrs	Mon	16-18	HG E21	<b>F. Balabdaoui,</b> P. L. Bühlmann, M. H. Maathuis, N. Meinshausen, S. van de Geer
401-3630-04L	<b>Semester Paper</b> <i>Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics is required. For more information, see <a href="http://www.math.ethz.ch/intranet/students/study-administration/theses.html">www.math.ethz.ch/intranet/students/study-administration/theses.html</a></i>	W	4 credits	6A				
401-3630-04 A	Semesterarbeit (Statistik) 4 KP ■			80s hrs	by appt.	Supervisors		
401-3630-06L	<b>Semester Paper</b> <i>Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics is required. For more information, see <a href="http://www.math.ethz.ch/intranet/students/study-administration/theses.html">www.math.ethz.ch/intranet/students/study-administration/theses.html</a></i>	W	6 credits	9A				
401-3630-06 A	Semesterarbeit (Statistik) 6 KP ■			120s hrs	by appt.	Supervisors		
252-5051-00L	<b>Advanced Topics in Machine Learning</b> <i>Number of participants limited to 40.  The deadline for deregistering expires at the end of the fourth week of the semester. Students who are still registered after that date, but do not attend the seminar, will officially fail the seminar.</i>	W	2 credits	2S				
252-5051-00 S	Advanced Topics in Machine Learning ■			2 hrs	Tue Thu	16-18 16-18	CAB G56 CAB G57	<b>J. M. Buhmann, R. Cotterell, J. Vogt, F. Yang</b>

## ► GESS Science in Perspective

Two credits are needed from the "Science in Perspective" programme with language courses excluded if three credits from language courses have already been recognised for the Bachelor's degree.  
see <https://ethz.ch/content/dam/ethz/common/docs/weisungssammlung/files-en/science-in-perspective.pdf> (Eight credits must be acquired in this category: normally six during the Bachelor's degree programme, and two during the Master's degree programme. A maximum of three credits from language courses from the range of the Language Center of the University of Zurich and ETH Zurich may be recognised. In addition, only advanced courses (level B2 upwards) in the European languages English, French, Italian and Spanish are recognised. German language courses are recognised from level C2 upwards.)

see GESS Science in Perspective:  
Language Courses ETH/USZ

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-MATH.

## ► Master's Thesis

Number	Title	Type	ECTS	Hours					Lecturers
401-2000-00L	<b>Scientific Works in Mathematics</b> <i>Target audience: Third year Bachelor students; Master students who cannot document to have received an adequate training in working scientifically.</i>	O	0 credits						
401-2000-00 V	Scientific Works in Mathematics <i>Groups are selected in myStudies. This mandatory course is offered twice per semester. Carry your ETH student card with you to prove your identity. The lecturers will communicate the exact lesson times of ONLINE courses.</i>			1s hrs	28.09. 14.12.	18-19 18-19	ON LINE ON LINE	M. Burger	
401-2000-01L	<b>Lunch Sessions – Thesis Basics for</b>	Z	0 credits						



## Mathematics Students

Details and registration for the optional MathBib training course:  
<https://www.math.ethz.ch/mathbib-schulungen>

401-2000-01 G Lunch Sessions – Thesis Basics für Mathematik-Studierende  
 geplant 4., 5., 6. und 8. Oktober 2021 über Mittag.  
<https://math.ethz.ch/library/training-courses/lunch-sessions.html>

401-4990-02L Master's Thesis O 30 credits 57D

Only students who fulfil the following criteria are allowed to begin with their Master's thesis:  
 a. successful completion of the Bachelor's programme;  
 b. fulfilling of any additional requirements necessary to gain admission to the Master's programme;  
 c. They have acquired at least 16 credits in the category "Core courses" for Programme Regulations 2014 and 40 credits in the category "Main Areas" for Programme Regulations 2020.

Successful participation in the course unit 401-2000-00L Scientific Works in Mathematics is required.  
 For more information, see [www.math.ethz.ch/intranet/students/study-administration/theses.html](http://www.math.ethz.ch/intranet/students/study-administration/theses.html)

401-4990-02 D Master's Thesis (Statistics) ■ 800s hrs by appt. Supervisors

## ► Course Units for Additional Admission Requirements

The courses below are only available for MSc students with additional admission requirements.

Number	Title	Type	ECTS	Hours	Lecturers
406-0173-AAL	<b>Linear Algebra I and II</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.	E-	6 credits	13R	
406-0173-AA R	Linear Algebra I and II Self-study course. No presence required.			180s hrs	N. Hungerbühler
406-0243-AAL	<b>Analysis I and II</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.	E-	14 credits	30R	
406-0243-AA R	Analysis I and II Self-study course. No presence required.			420s hrs	M. Akveld
406-0603-AAL	<b>Stochastics (Probability and Statistics)</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.	E-	4 credits	9R	
406-0603-AA R	Stochastics (Probability and Statistics) Self-study course. No presence required.			120s hrs	M. Kalisch
406-2604-AAL	<b>Probability and Statistics</b> Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.  Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.	E-	7 credits	15R	
406-2604-AA R	Probability and Statistics Self-study course. No presence required.			210s hrs	J. Teichmann

## Statistics Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Environmental Engineering Bachelor

## ► 1. Semester

### ►► First Year Examinations (1. Sem.)

Number	Title	Type	ECTS	Hours				Lecturers
<b>401-0241-00L</b>	<b>Analysis I</b>	<b>O</b>	<b>7 credits</b>	<b>5V+2U</b>				
401-0241-00 V	Analysis I			5 hrs	Mon	08-10	ETF C1	<b>M. Akveld</b>
					Wed	08-10	HPH G2	
					Thu/2w	08-10	ETF C1	
401-0241-00 U	Analysis I			2 hrs	Thu	10-12	CHN D48	<b>M. Akveld</b>
	<i>Groups are selected in myStudies.</i>						LFW E13	
	<i>Do 10-12 (ausser für Studiengang</i>						ML J34.3	
	<i>Umweltingenieurwissenschaften) oder Do 14-16 oder Do 16-18</i>					14-16	CHN D48	
	<i>gemäss Gruppeneinteilung (Übungen 252-0845-00 U Informatik I</i>						LFW C1	
	<i>entsprechend umgekehrt Do 10-12 oder Do 14-16 oder Do 16-</i>						LFW E13	
	<i>18).</i>						ML F40	
	<i>Zusätzlich wird ab der zweiten Semesterwoche ein StudyCenter</i>					16-18	ML H41.1	
	<i>gemeinsam für die Analysis I- und die Lineare Algebra-Vorlesung</i>						LFW C1	
	<i>angeboten. Das StudyCenter findet montags von 18-20 Uhr sowie</i>						ML H41.1	
	<i>mittwochs von 16-18 Uhr statt. Infos zu den Räumen finden Sie</i>							
	<i>auf der Moodle-Seite der Vorlesung.</i>							
<b>401-0141-00L</b>	<b>Linear Algebra</b>	<b>O</b>	<b>5 credits</b>	<b>3V+1U</b>				
401-0141-00 V	Lineare Algebra			3 hrs	Wed	10-12	HPH G2	<b>M. Akka Ginosar</b>
					Thu/2w	08-10	ETF C1	
401-0141-00 U	Lineare Algebra			1 hrs	Thu	12-13	CHN D42	<b>M. Akka Ginosar</b>
	<i>Groups are selected in myStudies.</i>						CHN D48	
	<i>Übungen Do 12-13 oder Do 13-14 gemäss Gruppeneinteilung.</i>						HG E33.3	
	<i>Zusätzlich wird ab der zweiten Semesterwoche ein StudyCenter</i>					13-14	LFW C1	
	<i>gemeinsam für die Analysis I- und die Lineare Algebra-Vorlesung</i>						LFW E13	
	<i>angeboten. Das StudyCenter findet montags von 18-20 Uhr sowie</i>						CHN D42	
	<i>mittwochs von 16-18 Uhr statt. Infos zu den Räumen finden Sie</i>						CHN D48	
	<i>auf der Moodle-Seite der Vorlesung.</i>						HG E33.3	
							LFW C1	
							LFW E13	
<b>252-0845-00L</b>	<b>Computer Science I</b>	<b>O</b>	<b>5 credits</b>	<b>2V+2U</b>				
252-0845-00 V	Informatik I			2 hrs	Mon	12-14	HG F1	<b>C. Cotrini Jimenez, R. Sasse</b>
252-0845-00 U	Informatik I			2 hrs	Thu	14-16	ETZ J91	<b>C. Cotrini Jimenez, R. Sasse</b>
	<i>Groups are selected in myStudies.</i>						HG E33.1	
							IFW C33	
							LFW C5	
						16-18	ON LINE	
							CHN D46	
							ETZ G91	
							ETZ J91	
							HG E33.1	
							ON LINE	
<b>101-0031-01L</b>	<b>Systems Engineering</b>	<b>O</b>	<b>4 credits</b>	<b>4G</b>				
101-0031-01 G	Systems Engineering			4 hrs	Mon	16-18	HIL E4	<b>B. T. Adey</b>
	<i>Vorlesung: Donnerstag</i>				Thu	10-12	ETF C1	
	<i>Übung: Montag</i>							
	<i>Fragestunde: Wird in der ersten Vorlesung bekanntgegeben</i>							
	<i>Online lecture: This lecture will primarily take place online.</i>							
	<i>Reserved rooms will remain reserved on campus for students to</i>							
	<i>follow the course from there.</i>							
<b>651-0032-00L</b>	<b>Geology and Petrography</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>				
651-0032-00 V	Geologie und Petrographie			2 hrs	Fri	10-12	HPH G2	<b>M. O. Saar, K. Rauchenstein</b>
651-0032-00 U	Geologie und Petrographie			1 hrs	Fri/2w	12-14	HIL B18.2	<b>K. Rauchenstein</b>
	<i>Groups are selected in myStudies.</i>						HIL B18.2	
	<i>In Gruppen</i>						HIL B21	
							HIL D10.2	
							HIL D10.2	
							HIL D53	
							HIL D53	
							HIL E10.1	
							HIL E10.1	
							HIL E5	
							HIL E5	
						14-16	HIL B18.2	
							HIL B18.2	
							HIL B21	
							HIL B21	
							HIL D10.2	
							HIL D10.2	
							HIL D53	
							HIL D53	
							HIL E10.1	
							HIL E10.1	
							HIL E5	
							HIL E5	

<b>529-2001-02L</b>	<b>Chemistry I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>					
529-2001-02 V	Chemie I <i>Vorlesung im HG F1 mit Videoübertragung ins HG F3.</i>			2 hrs	Tue	08-10	HG F1 HG F3	<b>J. Cvengros</b>	
529-2001-02 U	Chemie I <i>Übungen:</i>			2 hrs	Wed Thu	14-16 10-12	CHN C14 ETZ E8 ETZ H91 HG G26.3 IFW A34 IFW B42	<b>J. Cvengros,</b> J. E. E. Buschmann, P. Funck, E. C. Meister, R. Verel	
	<i>Mi 14-16 für Umweltingenieurwissenschaften Do 10-12 für Agrar-, Lebensmittel-, Erdwissenschaften Fr 8-10 für Umweltnaturwissenschaften</i>				Fri	08-10	ETZ J91 IFW A36		

### ► 3. Semester

#### ►► Compulsory Courses 3. Semester

#### ►►► Examination Block 1

Number	Title	Type	ECTS	Hours				Lecturers
<b>402-0023-01L</b>	<b>Physics</b>	<b>O</b>	<b>7 credits</b>	<b>5V+2U</b>				
402-0023-01 V	Physics			5 hrs	Wed Fri	10-12 09-12	HPH G3 HPH G3	<b>S. Johnson</b>
402-0023-01 U	Physics <i>Do 8-10 für Studiengang Bauingenieurwissenschaften Do 14-16 für Umweltingenieurwissenschaften</i>			2 hrs	Thu	08-10	HCI D4 HCI D6 HCI F8 HIL D60.1 HIT F31.1 HIT K51 HIT F31.2 HIT K51	<b>S. Johnson</b>
<b>101-0203-01L</b>	<b>Hydraulics I</b>	<b>O</b>	<b>5 credits</b>	<b>3V+1U</b>				
101-0203-01 V	Hydraulik I			3 hrs	Thu	10-13	HIL E1	<b>R. Stocker</b>
101-0203-01 U	Hydraulik I (in G) <i>Übungen Mi 08-09 oder 09-10 Uhr für Bauing und Umweltnaturwissenschaften Übungen Mi 12-13 oder 13-14 Uhr für Umweltingenieurwissenschaften</i>			1 hrs	Wed	08-09	HIL B18.2 HIL D60.1 HIL E5 HIL F10.3 HIL B18.2 HIL D60.1 HIL E5 HIL F10.3 HIL E9 HIL B21 HIL E9 HCI D8	<b>R. Stocker</b>
<b>103-0233-01L</b>	<b>GIS I (for Environmental Engineers)</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
103-0233-01 G	GIS I (für Umweltingenieurwissenschaften) <i>Vorlesung: Fr 12-14 (14-tägig, ab 1. Semesterwoche). Übungen in Gruppen: Di 8-10 oder Fr 12-14 (14-tägig, ab 2. Semesterwoche). Letzte Semesterwoche: Übung für beide Gruppen am Di 21.12.2021 8-10.</i>			2 hrs	Tue/2w Fri/2w	08-10 12-14	HIL E15.2 HIL E15.2 HIL E6	<b>P. Kiefer</b>
<b>102-0293-00L</b>	<b>Hydrology</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
102-0293-00 G	Hydrology <i>Online event: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	14-16	HIL E4	<b>P. Burlando</b>
<b>701-0243-01L</b>	<b>Biology III: Essentials of Ecology</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
701-0243-01 V	Biologie III: Ökologie <i>Vorlesung im HG F 1 mit Videoübertragung ins HG F 3.</i>			2 hrs	Mon	10-12	HG F1 HG F3	<b>C. Buser Moser</b>

#### ►►► Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>752-4001-00L</b>	<b>Microbiology</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
752-4001-00 V	Mikrobiologie			2 hrs	Mon	08-10	ML D28	<b>M. Ackermann,</b> M. Schuppler, J. Vorholt-Zambelli
<b>752-0100-00L</b>	<b>Biochemistry</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
752-0100-00 V	Biochemie			2 hrs	Mon	14-16	HG E1.1	<b>C. Frei</b>

### ► 5. Semester

#### ►► Compulsory Courses 5. Semester

#### ►►► Examination Block 3

Number	Title	Type	ECTS	Hours				Lecturers
<b>102-0215-00L</b>	<b>Urban Water Management II</b>	<b>O</b>	<b>4 credits</b>	<b>2G</b>				
102-0215-00 G	Siedlungswasserwirtschaft II			2 hrs	Tue	10-12	HIL E8	<b>M. Maurer,</b> P. Stauer
<b>102-0455-01L</b>	<b>Groundwater I</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>				
102-0455-01 G	Groundwater I <i>Exercises on Wednesdays, lecture on Fridays.</i>			3 hrs	Wed/2w Fri	16-18 10-12	CHN F46 HIL E8	<b>J. Jimenez-Martinez,</b> M. Willmann
<b>102-0635-01L</b>	<b>Air Pollution Control</b>	<b>O</b>	<b>6 credits</b>	<b>4G</b>				

102-0635-01 G	Luftreinhaltung			4 hrs	Wed Fri	10-12 08-10	HIL E6 HIL E6	J. Wang, B. Buchmann
<b>102-0675-00L</b>	<b>Earth Observation</b>	<b>O</b>	<b>4 credits</b>	<b>3G</b>				
102-0675-00 G	Erdbeobachtung			3 hrs	Thu	13-16 14-15	HIL E8 HIL E15.2	I. Hajnsek, E. Baltsavias
<b>►►► Examination Block 4</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>101-0031-02L</b>	<b>Business Administration</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
101-0031-02 V	Betriebswirtschaftslehre			2 hrs	Thu	08-10	HG G5	M. Passardi, P. Barmettler
<b>851-0723-00L</b>	<b>Environmental Law I: Fundamentals and Concepts</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
	<i>Only for Environmental Engineering BSc</i>							
851-0723-00 V	Umweltrecht I: Grundlagen und Konzepte <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Mon	12-14	CHN F46	A. Gossweiler, C. Jäger, M. Pflüger
<b>101-0515-00L</b>	<b>Project Management</b>	<b>O</b>	<b>2 credits</b>	<b>2G</b>				
101-0515-00 G	Projektmanagement			2 hrs	Fri	14-16	HIL E1	C. G. C. Marx
<b>►►► Additional Compulsory Courses</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>102-0515-01L</b>	<b>Environmental Engineering Seminars</b>	<b>O</b>	<b>3 credits</b>	<b>3S</b>				
102-0515-01 S	Seminar Umweltingenieurwissenschaften ■ <i>Permission from lecturers required for all students For the training courses in presentation techniques, groups of approx. 12 students are taught in separate rooms.</i>			3 hrs	Thu	16-19	HIL E9	E. Secchi, P. Burlando, I. Hajnsek, M. Maurer, P. Molnar, E. Morgenroth, S. Pfister, S. Sinclair, R. Stocker, J. Wang
<b>►► Elective Blocks</b>								
<b>►►► Elective Block: Environmental Planning</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>102-0535-00L</b>	<b>Noise Abatement</b>	<b>W</b>	<b>5 credits</b>	<b>4G</b>				
102-0535-00 G	Lärmbekämpfung			4 hrs	Mon Wed	08-10 08-10	HIL E10.1 HIL E10.1	K. Eggenschwiler, J. M. Wunderli
<b>►►► Elective Block: Soil Protection</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>701-0501-00L</b>	<b>Pedosphere</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
701-0501-00 V	Pedosphäre			2 hrs	Thu	10-12	HG G3	R. Kretzschmar
<b>701-0533-00L</b>	<b>Soil and Water Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0533-00 G	Boden- und Wasserchemie			2 hrs	Wed	14-16	CHN F46	R. Kretzschmar, D. I. Christl, L. Winkel
<b>►►► Elective Block: Civil Engineering</b>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>101-0339-00L</b>	<b>Environmental Geotechnics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0339-00 G	Umweltgeotechnik			2 hrs	Tue	08-10	HIL E1	M. Plötze
<b>101-0113-10L</b>	<b>Theory of Structures (for Environmental Engineering)</b>	<b>W</b>	<b>3 credits</b>	<b>2.5G</b>				
	<i>Only for Environmental Engineering BSc.</i>							
101-0113-10 G	Baustatik (für Umweltingenieurwissenschaften) <i>Vorlesung: jeweils dienstags in Semesterwochen 1-8 Übungen (Kolloquium): jeweils montags in Semesterwochen 2-9</i>			2.5 hrs	Mon Tue/1	16-18 13-16	HIL C10.2 HIL E5 HIL E1	B. Sudret
<b>►►► Elective Block: Energy</b>								
<i>At least 10KP must be achieved for the elective block: Energy.</i>								
<b>Number</b>	<b>Title</b>	<b>Type</b>	<b>ECTS</b>	<b>Hours</b>				<b>Lecturers</b>
<b>227-1635-00L</b>	<b>Electric Circuits</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
	<i>Students without a background in Electrical Engineering must take "Electric Circuits" before taking "Introduction to Electric Power Transmission: System &amp; Technology"</i>							
227-1635-00 G	Electric Circuits <i>Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from the campus.</i>			3 hrs	Mon	14-17	ETZ E6	M. Zima, D. Shchetinin
<b>151-1633-00L</b>	<b>Energy Conversion</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>				
	<i>This course is intended for students outside of D-MAVT.</i>							
151-1633-00 G	Energy Conversion			3 hrs	Mon	10-13	NO C6	I. Karlin, G. Sansavini
<b>► Electives</b>								

## ►► Electives ETH Zurich

Course Catalogue of ETH Zurich

### ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-BAUG.

### ► Bachelor's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
102-0006-00L	Bachelor's Thesis	O	10 credits	21D	
102-0006-00 D	Bachelor-Arbeit ■			300s hrs by appt.	Lecturers

#### Environmental Engineering Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Environmental Engineering Master

## ► Majors

### ►► Major Urban Water Management

#### ►►► Ecological System Design

Number	Title	Type	ECTS	Hours				Lecturers
102-0307-01L	<b>Advanced Environmental, Social and Economic Assessments</b> <i>The combined course unit is only for Master students in Environmental Engineering. All other students enrol for one or both out of the single courses.</i>	O	5 credits	4G				
102-0317-00 G	Advanced Environmental Assessments			2 hrs	Thu	10-12	HIL E9	S. Pfister, R. Frischknecht A. E. Braunschweig
102-0327-01 G	Implementation of Environmental and Other Sustainability Goals <i>Remark: No course on 26.10.2021. The course will be instead on 02.11.2021 (room will be announced later on).</i>			21s hrs	Tue/2w	09-12	HIL E9	
102-0317-03L	<b>Advanced Environmental Assessment (Computer Lab I)</b>	O	1 credit	1U				
102-0317-03 U	Advanced Environmental Assessment (Computer Lab I) <i>Takes place on Tuesday 8-9.45 at ETH Hönggerberg (7 times; starting in the second week of the semester; exact dates to be confirmed).</i>			1 hrs				S. Pfister

#### ►►► Process Engineering in Urban Water Management

*No courses in autumn semester (HS), only in spring semester (FS).*

#### ►►► System Analysis in Urban Water Management

Number	Title	Type	ECTS	Hours				Lecturers
102-0227-00L	<b>Systems Analysis and Mathematical Modeling in Urban Water Management</b> <i>Number of participants limited to 50.</i>	O	6 credits	4G				
102-0227-00 G	Systems Analysis and Mathematical Modeling in Urban Water Management			4 hrs	Fri	08-10 10-12	HIL E9 HIL E15.2	<b>E. Morgenroth</b> , M. Maurer
102-0217-00L	<b>Process Engineering Ia</b>	O	3 credits	2G				
102-0217-00 G	Process Engineering Ia <i>More information can be found at <a href="http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html">http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html</a> Voluntary questions and support for excercises on Mondays 9-10, room: HCI D4 or Tuesdays 13-14, room HCI D4.</i>			2 hrs	Wed	08-10	HIL E9	<b>E. Morgenroth</b>

#### ►►► Water Infrastructure Planning and Stormwater Management

Number	Title	Type	ECTS	Hours				Lecturers
102-0250-00L	<b>Urban Drainage Planning and Modelling</b> <i>Number of participants limited to 36.</i>	O	6 credits	4G				
	<i>Only for Environmental Engineers Msc in the module Water Infrastructure Planning and Stormwater Management.</i>							
102-0250-00 G	Urban Drainage Planning and Modelling			4 hrs	Mon	14-18	HCP E47.1 HCP E47.4	<b>M. Maurer</b> , D. Gregorio, U. Karaus, J. P. Leitão Correia , J. Rieckermann
					21.09.	13-14	HIL E6	

#### ►► Major Environmental Technologies

#### ►►► Air Quality Control

Number	Title	Type	ECTS	Hours				Lecturers
102-0377-00L	Air Pollution Modeling and Chemistry	O	3 credits	2G				
102-0377-00 G	Air Pollution Modeling and Chemistry			2 hrs	Thu	08-10	HIL E6	S. Henne, S. Reimann Bhend, X. Zhang

#### ►►► Process Engineering in Urban Water Management

*No courses in autumn semester (HS), only in spring semester (FS).*

#### ►►► System Analysis in Urban Water Management

Number	Title	Type	ECTS	Hours				Lecturers
102-0227-00L	<b>Systems Analysis and Mathematical Modeling in Urban Water Management</b> <i>Number of participants limited to 50.</i>	O	6 credits	4G				
102-0227-00 G	Systems Analysis and Mathematical Modeling in Urban Water Management			4 hrs	Fri	08-10 10-12	HIL E9 HIL E15.2	<b>E. Morgenroth, M. Maurer</b>
102-0217-00L	<b>Process Engineering Ia</b>	O	3 credits	2G				

102-0217-00 G	Process Engineering Ia <i>More information can be found at <a href="http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html">http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html</a> Voluntary questions and support for exercises on Mondays 9-10, room: HCI D4 or Tuesdays 13-14, room HCI D4.</i>	2 hrs	Wed	08-10	HIL E9	<b>E. Morgenroth</b>
---------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------	-----	-------	--------	----------------------

## ►►► Waste Management

*Remark: 102-0337-00 Landfilling, Contaminated Sites and Radioactive Waste Repositories only for those students also taking module "System Analysis in Urban Water Management" as replacement of 102-0217-00 Process Engineering Ia in module "Waste Management".*

Number	Title	Type	ECTS	Hours				Lecturers
<b>102-0357-00L</b>	<b>Waste Recycling Technologies</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
102-0357-00 G	Waste Recycling Technologies			2 hrs	Tue/2	14-18	HIL E9	<b>R. Bunge</b>
<b>102-0337-00L</b>	<b>Landfilling, Contaminated Sites and Radioactive Waste Repositories</b> <i>Only for Environmental Engineering MSc.</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
102-0337-00 G	Landfilling, Contaminated Sites and Radioactive Waste Repositories <i>Permission from lecturers required for all students</i>			2 hrs	Wed	14-16	HIL E6	<b>M. Plötze, W. Hummel</b>
<b>102-0217-00L</b>	<b>Process Engineering Ia</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
102-0217-00 G	Process Engineering Ia <i>More information can be found at <a href="http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html">http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html</a> Voluntary questions and support for exercises on Mondays 9-10, room: HCI D4 or Tuesdays 13-14, room HCI D4.</i>			2 hrs	Wed	08-10	HIL E9	<b>E. Morgenroth</b>

## ►► Major Resource Management

### ►►► Ecological System Design

Number	Title	Type	ECTS	Hours				Lecturers
<b>102-0307-01L</b>	<b>Advanced Environmental, Social and Economic Assessments</b> <i>The combined course unit is only for Master students in Environmental Engineering. All other students enrol for one or both out of the single courses.</i>	<b>O</b>	<b>5 credits</b>	<b>4G</b>				
102-0317-00 G	Advanced Environmental Assessments			2 hrs	Thu	10-12	HIL E9	<b>S. Pfister, R. Frischknecht</b>
102-0327-01 G	Implementation of Environmental and Other Sustainability Goals <i>Remark: No course on 26.10.2021. The course will be instead on 02.11.2021 (room will be announced later on).</i>			21s hrs	Tue/2w	09-12	HIL E9	<b>A. E. Braunschweig</b>
<b>102-0317-03L</b>	<b>Advanced Environmental Assessment (Computer Lab I)</b>	<b>O</b>	<b>1 credit</b>	<b>1U</b>				
102-0317-03 U	Advanced Environmental Assessment (Computer Lab I) <i>Takes place on Tuesday 8-9.45 at ETH Hönggerberg (7 times; starting in the second week of the semester; exact dates to be confirmed).</i>			1 hrs				<b>S. Pfister</b>

### ►►► Groundwater

*Module is offered in Spring Semester.*

### ►►► Waste Management

*Remark: 102-0337-00 Landfilling, Contaminated Sites and Radioactive Waste Repositories only for those students also taking module "System Analysis in Urban Water Management" as replacement of 102-0217-00 Process Engineering Ia in module "Waste Management".*

Number	Title	Type	ECTS	Hours				Lecturers
<b>102-0357-00L</b>	<b>Waste Recycling Technologies</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
102-0357-00 G	Waste Recycling Technologies			2 hrs	Tue/2	14-18	HIL E9	<b>R. Bunge</b>
<b>102-0337-00L</b>	<b>Landfilling, Contaminated Sites and Radioactive Waste Repositories</b> <i>Only for Environmental Engineering MSc.</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
102-0337-00 G	Landfilling, Contaminated Sites and Radioactive Waste Repositories <i>Permission from lecturers required for all students</i>			2 hrs	Wed	14-16	HIL E6	<b>M. Plötze, W. Hummel</b>
<b>102-0217-00L</b>	<b>Process Engineering Ia</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
102-0217-00 G	Process Engineering Ia <i>More information can be found at <a href="http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html">http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html</a> Voluntary questions and support for exercises on Mondays 9-10, room: HCI D4 or Tuesdays 13-14, room HCI D4.</i>			2 hrs	Wed	08-10	HIL E9	<b>E. Morgenroth</b>

### ►►► Water Resources Management

Number	Title	Type	ECTS	Hours				Lecturers
<b>102-0468-10L</b>	<b>Watershed Modelling</b>	<b>O</b>	<b>6 credits</b>	<b>4G</b>				
102-0468-10 G	Watershed Modelling <i>Remark: New course replacing 102-0237-00 Hydrology II (until HS19) and 102-0468-00 Watershed Modeling (until FS20).</i>			4 hrs	Mon Wed	16-18 12-14	HIL E8 HIL E8	<b>P. Molnar</b>

### ►► Major Water Resources Management



## ►►► Flow and Transport

Number	Title	Type	ECTS	Hours					Lecturers
<b>101-0267-01L</b>	<b>Numerical Hydraulics</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					<b>M. Holzner</b>
101-0267-01 G	Numerical Hydraulics			2 hrs	Mon	14-16	HIL E6		
<b>102-0259-00L</b>	<b>Ecohydraulics and Habitat Modelling</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					<b>R. Stocker, K.-D. Jorde, L. G. Martins da Silva, A. Siviglia</b>
102-0259-00 G	Ecohydraulics and Habitat Modelling			2 hrs	Tue	10-12	HIL C10.2		
<i>Remark: 8.00-12.00 on 4 course dates (02.11., 09.11., 23.11. and 30.11.2021), room will be announced later on.</i>					21.09.	08-12	HIL D10.2		
<i>No class on 28.09., 12.10., 16.11. and 21.12.2021.</i>					05.10.	10-12	HIL C10.2		
					02.11.	08-12	n/a		
					09.11.	08-10	n/a		
					23.11.	08-10	n/a		
					30.11.	08-10	n/a		

## ►►► Groundwater

*Module is offered in Spring Semester.*

## ►►► Landscape

Number	Title	Type	ECTS	Hours				Lecturers
103-0347-00L	Landscape Planning and Environmental Systems	O	3 credits	2V				A. Grêt-Regamey
103-0347-00 V	Landscape Planning and Environmental Systems	■		2 hrs	Fri	08-10	HIL E8	
102-0287-00L	River Basin Erosion	W	3 credits	2G				P. Molnar
102-0287-00 G	River Basin Erosion			2 hrs	Thu	14-16	HIL E6	
Remark: Title until HS20: Fluvial Systems.								

## ►►► Water Resources Management

Number	Title	Type	ECTS	Hours					Lecturers
<b>102-0468-10L</b>	<b>Watershed Modelling</b>	<b>O</b>	<b>6 credits</b>	<b>4G</b>					<b>P. Molnar</b>
102-0468-10 G	Watershed Modelling			4 hrs	Mon	16-18	HIL E8		
<i>Remark: New course replacing 102-0237-00 Hydrology II (until HS19) and 102-0468-00 Watershed Modeling (until FS20).</i>					Wed	12-14	HIL E8		

## ►► Major River and Hydraulic Engineering

## ►►► Flow and Transport

Number	Title	Type	ECTS	Hours					Lecturers
<b>101-0267-01L</b>	<b>Numerical Hydraulics</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					<b>M. Holzner</b>
101-0267-01 G	Numerical Hydraulics			2 hrs	Mon	14-16	HIL E6		
<b>102-0259-00L</b>	<b>Ecohydraulics and Habitat Modelling</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>					<b>R. Stocker, K.-D. Jorde, L. G. Martins da Silva, A. Siviglia</b>
102-0259-00 G	Ecohydraulics and Habitat Modelling			2 hrs	Tue	10-12	HIL C10.2		
<i>Remark: 8.00-12.00 on 4 course dates (02.11., 09.11., 23.11. and 30.11.2021), room will be announced later on.</i>					21.09.	08-12	HIL D10.2		
<i>No class on 28.09., 12.10., 16.11. and 21.12.2021.</i>					05.10.	10-12	HIL C10.2		
					02.11.	08-12	n/a		
					09.11.	08-10	n/a		
					23.11.	08-10	n/a		
					30.11.	08-10	n/a		

## ►►► Hydraulic Engineering

Number	Title	Type	ECTS	Hours					Lecturers
101-0247-01L	<b>Hydraulic structures II</b> <i>Information: Enrolment of Hydraulic Engineering II is not recommended without having attended Hydraulic Engineering (101-0206-00L) previously since Hydraulic Engineering II is strongly based on Hydraulic Engineering (101-0206-00L).</i>	O	6 credits	4G					R. Boes
101-0247-01 G	Wasserbau II <i>Lehrsprache vorrangig Deutsch, ausgewählte Veranstaltungen in Englisch.</i>			4 hrs	Mon Thu	10-12 08-10	HIL E1 HIL E9		

## ►►► River Systems

*Remark: partly in German.*

*Note: Students taking both of the modules LAND and RIVER must take the course 101-1250-00 Wildbach- und Hangverbau as replacment for for Fluvial Systems that is listed in both modules.*

Number	Title	Type	ECTS	Hours				Lecturers
101-0258-00L	River Engineering	O	3 credits	2G				V. Weitbrecht, I. Schalko, K. Sperger
101-0258-00 G	River Engineering			2 hrs	Wed	16-18	HIL E8	
102-0287-00L	River Basin Erosion	O	3 credits	2G				P. Molnar
102-0287-00 G	River Basin Erosion			2 hrs	Thu	14-16	HIL E6	
Remark: Title until HS20: Fluvial Systems.								

## ►►► Water Resources Management

Number	Title	Type	ECTS	Hours					Lecturers
<b>102-0468-10L</b>	<b>Watershed Modelling</b>	<b>O</b>	<b>6 credits</b>	<b>4G</b>					

102-0468-10 G	Watershed Modelling <i>Remark: New course replacing 102-0237-00 Hydrology II (until HS19) and 102-0468-00 Watershed Modeling (until FS20).</i>	4 hrs	Mon Wed	16-18 12-14	HIL E8 HIL E8	<b>P. Molnar</b>
---------------	---------------------------------------------------------------------------------------------------------------------------------------------------	-------	------------	----------------	------------------	------------------

## ► Project Work (for all Majors)

Number	Title	Type	ECTS	Hours	Lecturers
<b>102-0999-00L</b>	<b>Project Work</b>	<b>O</b>	<b>12 credits</b>	<b>26A</b>	
102-0999-00 A	Project Work			360s hrs	Supervisors

## ► Elective Modules

*For all majors.*

### ►► EM: Air Quality Control

*Elective Module for Majors "Resource Management", "River and Hydraulic Engineering" "Urban Water Management" and "Water Resources Management".*

Number	Title	Type	ECTS	Hours	Lecturers
<b>102-0377-00L</b>	<b>Air Pollution Modeling and Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>	
102-0377-00 G	Air Pollution Modeling and Chemistry			2 hrs	Thu 08-10 HIL E6
					<b>S. Henne, S. Reimann Bhend, X. Zhang</b>

### ►► EM: Ecological System Design

*Elective Module for Majors "Environmental Technologies", "River and Hydraulic Engineering" and "Water Resources Management".*

Number	Title	Type	ECTS	Hours	Lecturers
<b>102-0307-01L</b>	<b>Advanced Environmental, Social and Economic Assessments</b> <i>The combined course unit is only for Master students in Environmental Engineering. All other students enrol for one or both out of the single courses.</i>	<b>W</b>	<b>5 credits</b>	<b>4G</b>	
102-0317-00 G	Advanced Environmental Assessments			2 hrs	Thu 10-12 HIL E9
102-0327-01 G	Implementation of Environmental and Other Sustainability Goals <i>Remark: No course on 26.10.2021. The course will be instead on 02.11.2021 (room will be announced later on).</i>			21s hrs	Tue/2w 09-12 HIL E9
					<b>S. Pfister, R. Frischknecht A. E. Braunschweig</b>
<b>102-0317-03L</b>	<b>Advanced Environmental Assessment (Computer Lab I)</b>	<b>W</b>	<b>1 credit</b>	<b>1U</b>	
102-0317-03 U	Advanced Environmental Assessment (Computer Lab I) <i>Takes place on Tuesday 8-9.45 at ETH Hönggerberg (7 times; starting in the second week of the semester; exact dates to be confirmed).</i>			1 hrs	
					<b>S. Pfister</b>

### ►► EM: Flow and Transport

*Elective Module for Majors "Environmental Technologies", "Resource Management" and "Urban Water Management".*

Number	Title	Type	ECTS	Hours	Lecturers
<b>101-0267-01L</b>	<b>Numerical Hydraulics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>	
101-0267-01 G	Numerical Hydraulics			2 hrs	Mon 14-16 HIL E6
					<b>M. Holzner</b>
<b>102-0259-00L</b>	<b>Ecohydraulics and Habitat Modelling</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>	
102-0259-00 G	Ecohydraulics and Habitat Modelling <i>Remark: 8.00-12.00 on 4 course dates (02.11., 09.11., 23.11. and 30.11.2021), room will be announced later on. No class on 28.09., 12.10., 16.11. and 21.12.2021.</i>			2 hrs	Tue 10-12 HIL C10.2
					21.09. 08-12 HIL D10.2
					05.10. 10-12 HIL C10.2
					02.11. 08-12 n/a
					09.11. 08-10 n/a
					23.11. 08-10 n/a
					30.11. 08-10 n/a
					<b>R. Stocker, K.-D. Jorde, L. G. Martins da Silva, A. Siviglia</b>

### ►► EM: Groundwater

*Elective Module for Majors "Environmental Technologies", "River and Hydraulic Engineering" and "Urban Water Management". Module is offered in FS.*

### ►► EM: Hydraulic Engineering

*Elective Module for Majors "Environmental Technologies", "Resource Management", "Urban Water Management" and "Water Resources Management".*

Number	Title	Type	ECTS	Hours	Lecturers
<b>101-0247-01L</b>	<b>Hydraulic structures II</b> <i>Information: Enrolment of Hydraulic Engineering II is not recommended without having attended Hydraulic Engineering (101-0206-00L) previously since Hydraulic Engineering II is strongly based on Hydraulic Engineering (101-0206-00L).</i>	<b>W</b>	<b>6 credits</b>	<b>4G</b>	
101-0247-01 G	Wasserbau II <i>Lehrsprache vorrangig Deutsch, ausgewählte Veranstaltungen in Englisch.</i>			4 hrs	Mon 10-12 HIL E1
					Thu 08-10 HIL E9
					<b>R. Boes</b>

### ►► EM: Landscape

*Elective Module for Majors "Environmental Technologies", "Resource Management", "River and Hydraulic Engineering" and "Urban Water Management".*

Number	Title	Type	ECTS	Hours	Lecturers
--------	-------	------	------	-------	-----------

<b>103-0347-00L</b>	<b>Landscape Planning and Environmental Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
103-0347-00 V	Landscape Planning and Environmental Systems			2 hrs	Fri	08-10	HIL E8	<b>A. Grêt-Regamey</b>	
<b>102-0287-00L</b>	<b>River Basin Erosion</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
102-0287-00 G	River Basin Erosion			2 hrs	Thu	14-16	HIL E6	<b>P. Molnar</b>	
	Remark: Title until HS20: Fluvial Systems.								

## ►► EM: Process Engineering in Urban Water Management

Elective Module for Majors "Resource Management", "River and Hydraulic Engineering" and "Water Resources Management".

No courses in autumn semester (HS), only in spring semester (FS).

## ►► EM: Remote Sensing and Earth Observation

Elective Module for Majors "Environmental Technologies", "Resource Management", "River and Hydraulic Engineering", "Urban Water Management" and "Water Resources Management".

Remark: Students also taking module "Remote Sensing and Earth Observation" as replacement of 102-0617-01L Methodologies for Image Processing of Remote Sensing Data in module "Landscape" have to choose one out following list:

1. 701-0104-00L Statistical Modelling of Spatial Data (FS) oder
2. 701-1674-00L Spatial Analysis, Modelling and Optimisation (FS) oder
3. 701-1644-00L Mountain Forest Hydrology (HS).

Number	Title	Type	ECTS	Hours					Lecturers
<b>102-0617-00L</b>	<b>Basics and Principles of Radar Remote Sensing for Environmental Applications</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
102-0617-00 G	Basics and Principles of Radar Remote Sensing for Environmental Applications			2 hrs	Wed	10-12	HIL E9	<b>I. Hajnsek</b>	
<b>102-0627-00L</b>	<b>Applied Radar Remote Sensing</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
102-0627-00 G	Applied Radar Remote Sensing			2 hrs	Wed	14-16	HIL E15.2	<b>O. Frey</b>	

## ►► EM: River Systems

Elective Module for Majors "Environmental Technologies", "Resource Management", "Urban Water Management" and "Water Resources Management".

Remark: partly in German.

Note: Students taking both of the modules LAND and RIVER must take the course 101-1250-00 Wildbach- und Hangverbau as replacement for for Fluvial Systems that is listed in both modules.

Number	Title	Type	ECTS	Hours					Lecturers
<b>101-0258-00L</b>	<b>River Engineering</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
101-0258-00 G	River Engineering			2 hrs	Wed	16-18	HIL E8	<b>V. Weitbrecht, I. Schalko, K. Sperger</b>	
<b>102-0287-00L</b>	<b>River Basin Erosion</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
102-0287-00 G	River Basin Erosion			2 hrs	Thu	14-16	HIL E6	<b>P. Molnar</b>	
	Remark: Title until HS20: Fluvial Systems.								

## ►► EM: Soil

Elective Module for Majors "Environmental Technologies", "Resource Management", "River and Hydraulic Engineering", "Urban Water Management" and "Water Resources Management".

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0535-00L</b>	<b>Environmental Soil Physics/Vadose Zone Hydrology</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>					
701-0535-00 V	Environmental Soil Physics/Vadose Zone Hydrology			2 hrs	Wed	16-18	CHN E46	<b>A. Carminati, P. U. Lehmann Grunder</b>	
701-0535-00 U	Environmental Soil Physics/Vadose Zone Hydrology			1 hrs	Wed	18-19	CHN E46	<b>A. Carminati, P. U. Lehmann Grunder</b>	
<b>701-1343-00L</b>	<b>Soil-Plant Water Relations</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
701-1343-00 V	Soil-Plant Water Relations			2 hrs	Fri	10-12	ML H41.1	<b>A. Carminati</b>	

## ►► EM: System Analysis in Urban Water Management

Elective Module for Majors "Resource Management", "River and Hydraulic Engineering" and "Water Resources Management".

Number	Title	Type	ECTS	Hours					Lecturers
<b>102-0227-00L</b>	<b>Systems Analysis and Mathematical Modeling in Urban Water Management</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
	Number of participants limited to 50.								
102-0227-00 G	Systems Analysis and Mathematical Modeling in Urban Water Management			4 hrs	Fri	08-10 10-12	HIL E9 HIL E15.2	<b>E. Morgenroth, M. Maurer</b>	
<b>102-0217-00L</b>	<b>Process Engineering Ia</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
102-0217-00 G	Process Engineering Ia			2 hrs	Wed	08-10	HIL E9	<b>E. Morgenroth</b>	
	More information can be found at <a href="http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html">http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html</a> Voluntary questions and support for exercises on Mondays 9-10, room: HCI D4 or Tuesdays 13-14, room HCI D4.								

## ►► EM: Waste Management

Elective Module for Majors "River and Hydraulic Engineering" "Urban Water Management" and "Water Resources Management".

Remark: 102-0337-00 Landfilling, Contaminated Sites and Radioactive Waste Repositories only for those students also taking module "System Analysis in Urban Water Management" as replacement of 102-0217-00 Process Engineering Ia in module "Waste Management".

Number	Title	Type	ECTS	Hours				Lecturers
102-0217-00L	Process Engineering Ia	W	3 credits	2G				E. Morgenroth
102-0217-00 G	Process Engineering Ia More information can be found at <a href="http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html">http://www.sww.ifu.ethz.ch/education/lectures/process-engineering-ia.html</a> Voluntary questions and support for excercises on Mondays 9-10, room: HCI D4 or Tuesdays 13-14, room HCI D4.			2 hrs	Wed	08-10	HIL E9	
102-0337-00L	Landfilling, Contaminated Sites and Radioactive Waste Repositories Only for Environmental Engineering MSc.	W	3 credits	2G				M. Plötze, W. Hummel
102-0337-00 G	Landfilling, Contaminated Sites and Radioactive Waste Repositories Permission from lecturers required for all students			2 hrs	Wed	14-16	HIL E6	
102-0357-00L	Waste Recycling Technologies	W	3 credits	2G				R. Bunge
102-0357-00 G	Waste Recycling Technologies			2 hrs	Tue/2	14-18	HIL E9	

## ►► EM: Water Infrastructure Planning and Stormwater Management

Elective Module for Majors "Environmental Technologies", "Resource Management", "River and Hydraulic Engineering" and "Water Resources Management".

Number	Title	Type	ECTS	Hours				Lecturers
102-0250-00L	Urban Drainage Planning and Modelling <i>Number of participants limited to 36.</i>	W	6 credits	4G				
	<i>Only for Environmental Engineers Msc in the module Water Infrastructure Planning and Stormwater Management.</i>							
102-0250-00 G	Urban Drainage Planning and Modelling			4 hrs	Mon	14-18	HCP E47.1 HCP E47.4	M. Maurer, D. Gregorio, U. Karaus, J. P. Leitão Correia , J. Rieckermann
					21.09.	13-14	HIL E6	

## ►► EM: Water Resources Management

Elective Module for Majors "Environmental Technologies", and "Urban Water Management".

Number	Title	Type	ECTS	Hours				Lecturers
102-0468-10L	Watershed Modelling	W	6 credits	4G				P. Molnar
102-0468-10 G	Watershed Modelling Remark: New course replacing 102-0237-00 Hydrology II (until HS19) and 102-0468-00 Watershed Modeling (until FS20).			4 hrs	Mon Wed	16-18 12-14	HIL E8 HIL E8	

## ► Specialized Computer Laboratory

Number	Title	Type	ECTS	Hours					Lecturers
102-0527-00L	Experimental and Computer Laboratory I O (Year Course)	O	0 credits	6P					
102-0527-00 P	Experimental and Computer Laboratory I ■ Semester performance as year course together with 102-0528-00L Experimental and Computer Laboratory II			6 hrs	Tue/1 Thu Thu/2 Fri 30.09. 05.10.	14-18 14-18 14-18 14-18 14-16 14-18	HIF C33.1 HIF C33.1 HIL B18.2 HIF C33.1 HIL E10.1 HIT F12	D. Braun, F. Evers, M. Floriancic, N. Klein, P. U. Lehmann Grunder, B. Lüthi, S. Pfister, F. Rüschi, D. A. Silva Conde, D. F. Vetsch, L. von Känel	
103-0347-70L	Supplementary Course to Project LAND W within Experimental and Computer Lab. I Only for Environmental Sciences MSc.	W	1 credit	1U					
	This is a supplementary course for students in the Laboratory Courses in Environmental Engineering who wish to complete all the exercises in Landscape planning and environmental system, as in the 3CP course 103-0347-01L Landscape Planning and Environmental Systems (GIS Exercises).								
103-0347-70 U	Supplementary Course to Project LAND within Experimental and Computer Lab. I			1 hrs	by appt.				D. Braun, N. Klein

## ► Electives

The entire course programs of ETH Zurich and the University of Zurich are open to the students to individual selection.

Course Catalogue of ETH Zurich

## ► Master's Thesis

Number	Title	Type	ECTS	Hours					Lecturers
<b>102-0010-01L</b>	<b>Master's Thesis</b> Only students who fulfill the following criteria are allowed to begin with their master thesis: a. successful completion of the bachelor	<b>W</b>	<b>30 credits</b>	<b>64D</b>					

programme;  
b. fulfilling of any additional requirements  
necessary to gain admission to the master  
programme.

102-0010-01 D Master's Thesis

900s hrs

Supervisors

## ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-BAUG.

## ► Course Units for Additional Admission Requirements

The courses below are only available for MSc students with additional admission requirements.

Number	Title	Type	ECTS	Hours	Lecturers
101-0203-AAL	<b>Hydraulics I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	E-	5 credits	11R	
	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>				
101-0203-AA R	Hydraulics I <i>Self-study course. No presence required.</i>			150s hrs	R. Stocker
102-0214-AAL	<b>Introduction to Urban Water Management</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	E-	6 credits	13R	
	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>				
102-0214-AA R	Introduction to Urban Water Management <i>Self-study course. No presence required. Details must be arranged in the beginning of the course.</i>			180s hrs	E. Morgenroth, M. Maurer
102-0324-AAL	<b>Ecological Systems Analysis</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	E-	6 credits	13R	
	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>				
102-0324-AA R	Ecological Systems Analysis <i>Self-study course. No presence required.</i>			180s hrs	S. Pfister
102-0325-AAL	<b>Waste Management</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	E-	4 credits	9R	
	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>				
102-0325-AA R	Waste Management <i>Self-study course. No presence required.</i>			120s hrs	C. Leitzinger
102-0455-AAL	<b>Groundwater I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	E-	4 credits	9R	
	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>				
102-0455-AA R	Groundwater I <i>Self-study course. No presence required.</i>			120s hrs	J. Jimenez-Martinez, M. Willmann
102-0635-AAL	<b>Air Pollution Control</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>	E-	6 credits	13R	
	<i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>				
102-0635-AA R	Air Pollution Control <i>Self-study course. No presence required.</i>			180s hrs	J. Wang, B. Buchmann
102-0474-AAL	<b>Introduction to Water Resources</b>	E-	4 credits	4R	

**Management**

*Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.*

*Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.*

102-0474-AA R	Introduction to Water Resources Management Self-study course. No presence required.			56s hrs	<b>P. Burlando</b>
<b>252-0846-AAL</b>	<b>Computer Science II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	
252-0846-AA R	Computer Science II Self-study course. No presence required.			120s hrs	<b>F. O. Friedrich Wicker, R. Sasse</b>
<b>529-2001-AAL</b>	<b>Chemistry I and II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>9 credits</b>	<b>19R</b>	
529-2001-AA R	Chemistry I and II Self-study course. No presence required.			270s hrs	<b>J. Cvengros</b>
<b>529-2002-AAL</b>	<b>Chemistry II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>5 credits</b>	<b>11R</b>	
529-2002-AA R	Chemistry II Self-study course. No presence required.			150s hrs	<b>H. Grützmacher, J. Cvengros</b>
<b>752-0100-AAL</b>	<b>Biochemistry</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>2 credits</b>	<b>4R</b>	
752-0100-AA R	Biochemistry Self-study course. No presence required.			60s hrs	<b>C. Frei</b>
<b>752-4001-AAL</b>	<b>Microbiology</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>2 credits</b>	<b>4R</b>	
752-4001-AA R	Microbiology Self-study course. No presence required.			60s hrs	<b>M. Ackermann</b>
<b>102-0293-AAL</b>	<b>Hydrology</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>	
102-0293-AA R	Hydrology Self-study course. No presence required.			90s hrs	<b>P. Burlando</b>
<b>406-0023-AAL</b>	<b>Physics</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>7 credits</b>	<b>15R</b>	
406-0023-AA R	Physics Self-study course. No presence required.			210s hrs	<b>S. Johnson</b>
<b>406-0603-AAL</b>	<b>Stochastics (Probability and Statistics)</b> <i>Enrolment ONLY for MSc students with a</i>	<b>E-</b>	<b>4 credits</b>	<b>9R</b>	

decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

406-0603-AA R Stochastics (Probability and Statistics) 120s hrs M. Kalisch  
Self-study course. No presence required.

**406-0141-AAL Linear Algebra E- 5 credits 11R**  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

406-0141-AA R Linear Algebra 150s hrs M. Akka Ginosar  
Self-study course. No presence required.

**406-0242-AAL Analysis II E- 7 credits 15R**  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

406-0242-AA R Analysis II 210s hrs M. Akveld  
Self-study course. No presence required.

**406-0243-AAL Analysis I and II E- 14 credits 30R**  
Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.

Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.

406-0243-AA R Analysis I and II 420s hrs M. Akveld  
Self-study course. No presence required.

#### Environmental Engineering Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
■ Special students and auditors need special permission from the lecturers.

# Environmental Studies TC

Detailed information on the programme at: <https://www.ethz.ch/en/studies/teacher-training.html>

## ► Educational Science

Number	Title	Type	ECTS	Hours					Lecturers
<b>851-0240-00L</b>	<b>Human Learning (EW1)</b> <i>This lecture is only apt for students who intend to enrol in the programs "Teaching Diploma" or "Teaching Certificate". It is about learning in childhood and adolescence.</i>	<b>O</b>	<b>2 credits</b>	<b>2V</b>					
851-0240-00 V	Menschliches Lernen (EW1)			2 hrs	Tue	18-20	HG F1		<b>E. Stern</b>
<b>851-0242-06L</b>	<b>Cognitively Activating Instructions in MINT Subjects</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
851-0242-06 S	Kognitiv aktivierender Unterricht in den MINT-Fächern ■ <i>Unregelmässige Lehrveranstaltung; für eine reibungslose Semesterplanung wird um frühe Anmeldung und persönliches Erscheinen zum ersten Lehrveranstaltungstermin ersucht.</i>			2 hrs	Wed	18-20	ML H41.1		<b>R. Schumacher</b>
<b>851-0242-07L</b>	<b>Human Intelligence</b> <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i> <i>Number of participants limited to 30.</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	<b>W</b>	<b>1 credit</b>	<b>1S</b>					
851-0242-07 S	Menschliche Intelligenz <i>Unregelmässige Lehrveranstaltung.</i> <i>An zwei Terminen findet die Lehrveranstaltung mit allen TeilnehmerInnen statt und an den übrigen Terminen nur mit einem Teil der Studierenden (Kleingruppen). Termine werden gemeinsam vereinbart.</i>			14s hrs	Wed	16-18	ML F40		<b>E. Stern</b>
<b>851-0242-08L</b>	<b>Research Methods in Educational Science</b> <i>Number of participants limited to 30</i> <i>This course unit can only be enrolled after successful participation in, or during enrollment in the course "Human Learning (EW 1)".</i>	<b>W</b>	<b>1 credit</b>	<b>2S</b>					
851-0242-08 S	Forschungsmethoden der empirischen Bildungsforschung <i>Unregelmässige Lehrveranstaltung.</i>  <i>Zwei obligatorische Präsenztermine: 29.09. und 17.11.</i> <i>An den übrigen Terminen nur mit einem Teil der Studierenden (jeweils mit 1-2 Kleingruppen).</i>			21s hrs	Wed	12-15	LFW C1		<b>P. Edelsbrunner, T. Braas, C. M. Thurn</b>
<b>851-0240-22L</b>	<b>Coping with Psychosocial Demands of Teaching (EW4 DZ)</b> <i>Number of participants limited to 20.</i>  <i>The successful participation in EW1 ("Human Learning") and EW2 ("Designing Learning Environments for School") is recommended, but not a mandatory prerequisite.</i>	<b>W</b>	<b>2 credits</b>	<b>3S</b>					
851-0240-22 S	Bewältigung psychosozialer Anforderungen im Lehrberuf (EW4 DZ) ■			3 hrs	Tue	09-12	HG E33.1 HG F26.5 HG G26.1		<b>U. Markwalder, S. Maurer, S. Peteranderl</b>
<b>851-0242-11L</b>	<b>Gender Issues In Education and STEM</b> <i>Number of participants limited to 30.</i>  <i>Enrolment only possible with matriculation in Teaching Diploma or Teaching Certificate (excluding Teaching Diploma Sport).</i>  <i>Prerequisite: students should be taking the course 851-0240-00L Human Learning (EW1) in parallel, or to have successfully completed it.</i>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
851-0242-11 S	Gender Issues In Education and STEM ■			2 hrs	Thu	10-12	LEE C114		<b>M. Berkowitz Biran, T. Braas, C. M. Thurn</b>



## ► Subject Didactics and Professional Training

*Important: You can only enrol in the courses of this category if you have not more than 12 CP left for possible additional requirements.*

Number	Title	Type	ECTS	Hours				Lecturers
701-0823-00L	<b>Environmental Education Didactics I</b> <i>Enrolment to Master's degree studies required.</i> <i>Recognition either for Master's degree studies or for Teaching Certificate.</i>	O	4 credits	3G				
701-0823-00 G	Fachdidaktik Umweltlehre I			3 hrs	Wed	10-13	CHN D42	C. Colberg, F. Keller
701-0827-00L	<b>Teaching Internship Including Examination Lessons Environmental Studies</b> <i>Target group: Teaching Certificate: Environment Studies.</i>  <i>Prerequisite: successful participation in Mentored Assignment (701-0822-00L).</i>  <i>Repetition of the Teaching Internship is excluded even if Examination Lessons are to be repeated.</i>	O	6 credits	13P				
701-0827-00 P	Unterrichtspraktikum mit Prüfungslektionen Umweltlehre DZ ■			180s hrs	by appt.			C. Colberg, F. Keller

### Environmental Studies TC - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
Special students and auditors need special permission from the lecturers.

## ►► First Year Examinations

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0007-00L</b>	<b>Tackling Environmental Problems I</b> <i>Only for Environmental Sciences BSc.</i>	<b>O</b>	<b>5 credits</b>	<b>4G</b>				
701-0007-00 G	Umweltproblemlösen I ■ <i>zusätzliche obligatorische Termine: Exkursion findet ganztägig voraussichtlich am 6. oder 13. November statt. Seminarwoche: 3.-7. Januar 2022 (ganztägig).</i>			4 hrs	Thu	10-12	CHN C14 CHN E42 CHN E46 CHN G42 CHN K77 14-16 CHN E42 CHN E46 CHN G42 CHN K77 30.09. 12-13 14-16 LEE C114 LEE D101 07.10. 12-13 03.01. 13-14 03.01.- 08-09 06.01. 03.01.- 08-18 07.01. CHN E42 CHN E46 CHN F42 CHN F46 CHN G42 CHN K77 CHN C14	<b>C. E. Pohl</b> , M. Mader, B. B. Pearce
<b>701-0027-00L</b>	<b>Environmental Systems I</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
701-0027-00 V	Umweltsysteme I			2 hrs	Tue	10-12	HG F7	<b>C. Schär</b> , N. Dubois, G. Velicer
<b>701-0029-00L</b>	<b>Environmental Systems II</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
701-0029-00 V	Umweltsysteme II			2 hrs	Tue	14-16	ML H44	<b>A. Patt</b> , H. Bugmann, N. Gruber
<b>701-0243-01L</b>	<b>Biology III: Essentials of Ecology</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
701-0243-01 V	Biologie III: Ökologie <i>Vorlesung im HG F 1 mit Videoübertragung ins HG F 3.</i>			2 hrs	Mon	10-12	HG F1 HG F3	<b>C. Buser Moser</b>
<b>401-0251-00L</b>	<b>Mathematics I</b>	<b>O</b>	<b>6 credits</b>	<b>4V+2U</b>				
401-0251-00 V	Mathematik I: Analysis I und Lineare Algebra			4 hrs	Mon Wed Thu	09-10 12-14 09-10	HG E7 HG E7 HG E7	<b>F. Da Lio</b>
401-0251-00 U	Mathematik I: Analysis I und Lineare Algebra <i>Groups are selected in myStudies. Die Übungen beginnen in der zweiten Semesterwoche. Mo 14-16 für Studiengänge Erd- und Klimawissenschaften bzw. Umweltnaturwissenschaften. Di 14-16 für Studiengänge Agrarwissenschaften bzw. Lebensmittelwissenschaften.  Zusätzlich wird das Mathe-Lab (Präsenzstunden) angeboten: Mo 16-18 in CAB G 51 und Di 12-14 in HG E 1.2.</i>			2 hrs	Mon          Tue	14-16          14-16	CHN D44 CHN F42 ETZ E9 ETZ G91 ETZ H91 ETZ K91 HG F26.5 LFW C4 CAB G56 CLA E4 LFO C13 LFW C5 RZ F21	<b>F. Da Lio</b>
<b>529-2001-02L</b>	<b>Chemistry I</b>	<b>O</b>	<b>4 credits</b>	<b>2V+2U</b>				
529-2001-02 V	Chemie I <i>Vorlesung im HG F1 mit Videoübertragung ins HG F3.</i>			2 hrs	Tue	08-10	HG F1 HG F3	<b>J. Cvengros</b>
529-2001-02 U	Chemie I <i>Übungen:  Mi 14-16 für Umweltingenieurwissenschaften Do 10-12 für Agrar-, Lebensmittel-, Erdwissenschaften Fr 8-10 für Umweltnaturwissenschaften</i>			2 hrs	Wed Thu       Fri	14-16 10-12       08-10	CHN C14 ETZ E8 ETZ H91 HG G26.3 IFW A34 IFW B42 ETZ J91 IFW A36	<b>J. Cvengros</b> , J. E. E. Buschmann, P. Funck, E. C. Meister, R. Verel
<b>551-0001-00L</b>	<b>General Biology I</b>	<b>O</b>	<b>3 credits</b>	<b>3V</b>				
551-0001-00 V	Biologie I: Allgemeine Biologie I			3 hrs	Wed Fri	09-10 10-12	ML D28 ETF C1	<b>U. Sauer</b> , O. Y. Martin, A. Widmer

Number	Title	Type	ECTS	Hours	Lecturers
252-0839-00L	Informatics	O	2 credits	2G	

252-0839-00 G	Einsatz von Informatikmitteln <i>Vorlesung: Fr 14-16 Uhr</i> <i>Individuelle Präsentation Projektaufgaben: restliche Zeiten alle 2 Wochen nach Voranmeldung</i>		2 hrs	Mon	18-19	HG E19 HG E26.3 HG E27 HG E19 HG E26.1 HG E26.3 HG E27 HG F7 HG E19 HG E26.1 HG E26.3 HG E27	L. E. Fässler, M. Dahinden
529-0030-00L	Laboratory Course: Elementary Chemical Techniques	O	3 credits	6P			
529-0030-00 P	Praktikum Chemie <i>Vorwiegend BSc UWIS: Kurs 1</i> <i>Vorwiegend BSc ERD, AGR, LM: Kurs 2</i>		6 hrs	17.01.-04.02.	08-10 08-10 13-15 13-15 13-15 13-17 08-10 09-14 13-17 08-10 09-14 13-17 08-10 09-14 13-17	CHN E46 CHN D42 CHN D44 CHN D46 CHN G22 CHN D42 CHN D44 CHN D46 CHN G22 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46 CHN E46	N. Kobert, A. de Mello, M. H. Schroth
751-0801-00L	Fundamentals of Microscopy and Plant Biology	O	1 credit	1V+2G			
751-0801-00 V	Grundlagen der Mikroskopie und Pflanzenbiologie <i>Die genauen Unterrichtszeiten von ONLINE - Veranstaltungen werden von den Dozierenden kommuniziert.</i>		1 hrs	Fri	13-14	ON LINE	E. B. Truernit
751-0801-00 G	Grundlagen der Mikroskopie und Pflanzenbiologie <i>Groups are selected in myStudies.</i> <i>Beginn der Lehrveranstaltung in der zweiten Semesterwoche</i>		2 hrs	Mon/2w Tue/2w Wed/2w Thu/2w	12-14 12-14 14-16 12-14 14-16 16-18 12-14 14-16 16-18	LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11 LFW E11	E. B. Truernit

► **Basic Courses II**  
►► **Examination Blocks**  
►►► **Examination Block 1**

Number	Title	Type	ECTS	Hours				Lecturers
401-0624-00L	Mathematics IV: Statistics	O	4 credits	2V+1U				
401-0624-00 V	Mathematik IV: Statistik			2 hrs	Thu	08-10	ML D28	J. Ernest
401-0624-00 U	Mathematik IV: Statistik <i>Groups are selected in myStudies.</i> <i>Do 10-11 für Studiengang Lebensmittelwissenschaften.</i> <i>Do 13-14 für Studiengang Agrarwissenschaften.</i> <i>Do 16-17 für Studiengang Erd- und Klimawissenschaften.</i> <i>Fr 9-10 für Studiengang Umweltwissenschaften.</i> <i>Do 18-19 als Online-Übung ausschliesslich für Studierende, welche nicht an den regulären Übungen in Präsenz teilnehmen können.</i>			1 hrs	Thu	10-11 13-14 16-17 18-19 09-10	ML F34 ML J34.1 HG E33.1 NO C44 ON LINE CAB G59 LFW E13 ML F40	J. Ernest
402-0063-00L	Physics II	O	5 credits	3V+1U				
402-0063-00 V	Physik II			3 hrs	Mon Wed	13-14 13-15	ML D28 HPH G2	A. Vaterlaus

402-0063-00 U	Physik II Fr 8-9 Uhr im Zentrum für UMNW Studierende			1 hrs	Wed	15-16	HCI D4 HCI D6 HCI E8 HCI F2 HCI F8 HCI J8 HIL C10.2 HIL E5 HIT H42 HIT J51 HPK D24.2 HG E21	<b>A. Vaterlaus</b>
					Fri	08-09		

<b>752-4001-00L</b>	<b>Microbiology</b>	<b>O</b>	<b>2 credits</b>	<b>2V</b>				
752-4001-00 V	Mikrobiologie			2 hrs	Mon	08-10	ML D28	<b>M. Ackermann, M. Schuppler, J. Vorholt-Zambelli</b>

## ▶▶▶ Examination Block 2

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0071-00L</b>	<b>Mathematics III: Systems Analysis</b>	<b>O</b>	<b>4 credits</b>	<b>2V+1U</b>				
701-0071-00 V	Mathematik III: Systemanalyse			2 hrs	Fri	10-12	ML D28	<b>R. Knutti, S. Schemm, H. Wernli</b>
701-0071-00 U	Mathematik III: Systemanalyse			1 hrs	Mon	11-12	CAB G57 CHN F46 HG E33.3 HG F26.5 HG G26.3 LEE D101 LEE D105 LEE E101 ML E12 ML F34 NO E11 NO E39	<b>L. Brunner, S. Schemm, P. Zschenderlein</b>

<b>701-0023-00L</b>	<b>Atmosphere</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
701-0023-00 V	Atmosphäre			2 hrs	Tue	10-12	HG E3	<b>E. M. Fischer, T. Peter</b>

<b>701-0501-00L</b>	<b>Pedosphere</b>	<b>O</b>	<b>3 credits</b>	<b>2V</b>				
701-0501-00 V	Pedosphäre			2 hrs	Thu	10-12	HG G3	<b>R. Kretzschmar</b>

## ▶▶ Additional Compulsory Courses

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0033-00L</b>	<b>Laboratory Course in Physics for Students of Environmental Sciences</b> <i>Enrollment is only possible under <a href="https://www.lehrbetrieb.ethz.ch/laborpraktika">https://www.lehrbetrieb.ethz.ch/laborpraktika</a>.</i> <i>No registration required via myStudies. For further information visit: <a href="https://ap.phys.ethz.ch">https://ap.phys.ethz.ch</a></i>  <i>Only students from 3th Semester BSc Environmental Sciences on are admitted to this lecture.</i>	<b>O</b>	<b>2 credits</b>	<b>4P</b>				
701-0033-00 P	Praktikum Physik für Studierende in Umweltwissenschaften <i>Die LV findet in den Praktikumsräumen im Gebäude HPP auf den Stockwerken J- und K-statt.</i>			4 hrs	Thu 23.09. 07.10.	13-18 14-16 13-15	HPP ETF C1 HG E3	<b>M. Münnich, A. Biland, N. Gruber</b>

## ▶ Social Sciences and Humanities

### ▶▶ Compulsory

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0707-00L</b>	<b>Analysing Arguments in Science and Ethics</b> <i>Number of Participants is limited to 160. Waiting list will be deleted October 1st 2021.</i>  <i>This lecture was offered until spring semester 17 under the title: "Analysing Texts". Students who completed this lecture already are not allowed to earn credits for this lecture again.</i>	<b>O</b>	<b>2 credits</b>	<b>2G</b>				
701-0707-00 G	Methoden des Argumentierens in Wissenschaft und Ethik ■			2 hrs	Tue	14-16	CHN C14	<b>C. J. Baumberger</b>
<b>701-0747-00L</b>	<b>Environmental Policy of Switzerland</b> <i>Number of participants limited to 130. Priority is given to the target group: Bachelor Study programme Environmental Sciences until September 27th, 2021. Waiting list will be deleted October 1st, 2021.</i>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
701-0747-00 G	Umweltpolitik der Schweiz			2 hrs	Mon	12-14	HG E1.1	<b>E. Lieberherr</b>
<b>351-1158-00L</b>	<b>Principles of Economics</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				

351-1158-00 G	Ökonomie <i>In classroom, online via livestreaming or zoom and recorded (Einführungsvorlesung 22.9. sowie Gastvorlesung 10.11.). In classroom, online via livestreaming or zoom, not recorded (4 groups); 6 Präsenzveranstaltungen. Online via livestreaming or zoom and recorded (1 group only zoom, this will be recorded).</i>	2 hrs	Wed	10-12	HG E41 LEE C104 LEE C114 LEE D101 LEE D105 ML D28 ML E12	<b>U. Renold</b> , T. Bolli, P. McDonald, M. E. Oswald- Egg, F. Pusterla
<b>851-0738-04L</b>	<b>Environmental Law</b> <i>Only for Environmental Sciences BSc.</i>  <i>Number of participants limited to 75</i>  <i>Students who have attended and passed the course unit 851-0741-00L in the spring semester may not attend this course unit (851-0738-04L) again and can't credited it.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>		
851-0738-04 V	Umweltrecht	2 hrs	Tue	16-18	HG D3.2	<b>B. Schibli</b>
<b>►► Electives</b>						
<b>►►► Module Economics</b>						
Number	Title	Type	ECTS	Hours		Lecturers
<b>151-0757-00L</b>	<b>Environmental Management</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>		
151-0757-00 G	Umwelt-Management <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Wed 18-20 ML D28	<b>R. Züst</b>
<b>351-0778-00L</b>	<b>Discovering Management</b> <i>Entry level course in management for BSc, MSc and PHD students at all levels not belonging to D-MTEC. This course can be complemented with Discovering Management (Exercises) 351-0778-01.</i>	<b>W</b>	<b>3 credits</b>	<b>3G</b>		
351-0778-00 G	Discovering Management <i>Diese Lehrveranstaltung wird ab dem HS 2021 jährlich im HS angeboten. The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Fri 08-11 HG E1.1	<b>B. Clarysse</b> , S. Brusoni, E. Fleisch, G. Grote, V. Hoffmann, T. Netland, Y. R. Shrestha, P. Tinguely, L. P. T. Vandeweghe
<b>351-0778-01L</b>	<b>Discovering Management (Exercises)</b> <i>Complementary exercises for the module Discovering Management.</i>  <i>Prerequisite: Participation and successful completion of the module Discovering Management (351-0778-00L) is mandatory.</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>		
351-0778-01 U	Discovering Management (Exercises)			1 hrs	Fri 11-12 HG E1.1	<b>B. Clarysse</b> , L. P. T. Vandeweghe
<b>363-0387-00L</b>	<b>Corporate Sustainability</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
363-0387-00 G	Corporate Sustainability <i>The course combines online learning elements and live sessions, some of which are recorded. Several course sessions require live attendance. Details are provided on the moodle course page.</i>			2 hrs	Wed/2 16-18 HG E21 HG E22 HG F3 Wed/2 16-18 ML E12	<b>V. Hoffmann</b> , C. Bening-Bach, N. U. Blum, J. Meuer
<b>363-0537-00L</b>	<b>Resource and Environmental Economics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Wed 10-12 HG G3	<b>L. Bretschger</b>
<b>363-1109-00L</b>	<b>Introduction to Microeconomics</b> <i>GESS (Science in Perspective): This course is only for students enrolled in a Bachelor's degree programme.</i>  <i>Students enrolled in a Master's degree programme may attend "Principles of Microeconomics" (LE 363-0503-00L) instead.</i>  <i>Note for D-MAVT students: If you have already successfully completed "Principles of Microeconomics" (LE 363-0503-00L), then you will not be permitted to attend it again.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>		
363-1109-00 G	Einführung in die Mikroökonomie <i>Zusätzliche (freiwillige) Termine für Übungen zur Vorlesung werden zu Beginn der Vorlesung bekanntgegeben.</i>			2 hrs	Tue 10-12 HG E5	<b>M. Wörter</b> , M. Beck
<b>851-0626-01L</b>	<b>International Aid and Development</b> <i>Number of participants limited to 60</i>  <i>Prerequisites: Basic knowledge of economics</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>		
851-0626-01 V	International Aid and Development			2 hrs	Tue 12-14 IFW A32.1	<b>K. Harttgen</b> , I. Günther

### ►►► Module Political and Social Sciences

Number	Title	Type	ECTS	Hours				Lecturers
701-0985-00L	Social Intercourse with Current Environmental Risks	W	1 credit	1V				B. Nowack
701-0985-00 V	Gesellschaftlicher Umgang mit aktuellen Umweltrisiken <i>Does not take place this semester.</i>			1 hrs				
851-0577-00L	Principles of Political Science	W	4 credits	2V+1U				T. Bernauer
851-0577-00 V	Politikwissenschaft: Grundlagen			2 hrs	Fri	14-16	ETZ E8	
851-0577-00 U	Politikwissenschaft: Grundlagen			1 hrs	Fri	16-17	ETZ E8	
860-0023-00L	International Environmental Politics <i>Particularly suitable for students of D-ITET, D-USYS</i>	W	3 credits	2V				T. Bernauer
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3	

### ►►► Module Individual Sciences

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0721-00L</b>	<b>Psychology</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				<b>R. Hansmann, A. Bearth, M. Siegrist</b>
701-0721-00 V	Psychologie <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Tue	14-16	HG D7.2	
<b>701-0785-00L</b>	<b>Introduction to Science Communication (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: 251403</i>  <i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>	<b>W</b>	<b>4 credits</b>	<b>2V</b>				<b>M. Schäfer</b>
701-0785-00 V	Einführung in die Wissenschaftskommunikation (Universität Zürich) <i>Does not take place this semester. **gemeinsam mit der Universität Zürich**</i>			2 hrs				
<b>701-0903-00L</b>	<b>The Sustainable Development Goals Book Club</b>	<b>W</b>	<b>2 credits</b>					<b>B. B. Pearce, J. Ghazoul</b>
701-0903-00 K	The Sustainable Development Goals Book Club <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2s hrs	Thu	18-20	CHN E46	
<b>752-2120-00L</b>	<b>Consumer Behaviour I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				<b>M. Siegrist, A. Bearth, A. Berthold</b>
752-2120-00 V	Consumer Behaviour I <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich online statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	14-16	HG G3	

### ►►► Module Humanities

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0703-00L</b>	<b>Environmental Ethics</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					<b>A. Deplazes Zemp</b>
701-0703-00 V	Ethik und Umwelt			2 hrs	Fri	12-14	HG F7		

### ►►► Creditable Language Courses

*Of the listed English language courses, a maximum of 2 CP can be credited.*

Number	Title	Type	ECTS	Hours	Lecturers
851-0832-10L	<b>Advanced English for Academic Purposes (C1-C2)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding course directly at "Language Center of UZH and ETH Zürich".</i>  <i>Course fees: <a href="https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html">https://www.sprachenzentrum.uzh.ch/en/Sprachkurse/Kursgebuehren1.html</a></i>  <i>Registration dates: <a href="https://www.sprachenzentrum.uzh.ch/en/angebot.html">https://www.sprachenzentrum.uzh.ch/en/angebot.html</a></i>	W	2 credits	2G	
851-0832-10 G	Advanced English for Academic Purposes (C1-C2) (Sprachenzentrum) <b>**Kurs vom Sprachenzentrum der UZH und der ETH Zürich**</b>  <i>Die Lehrveranstaltung wird in 2 Parallelkursen angeboten.</i>			2 hrs	University lecturers

### ► Highly recommended Natural Science and Technical Electives

## ►► For the Specialization in Biogeochemistry

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0225-00L</b>	<b>Organic Chemistry</b>	<b>W</b>	<b>2 credits</b>	<b>2V+1U</b>				
701-0225-00 V	Organic Chemistry <i>Vorlesung/lecture Mi/We 8-10 starts in the first week of the semester;</i>			2 hrs	Wed	08-10	CHN C14	<b>K. McNeill</b>
701-0225-00 U	Organic Chemistry <i>Exercises start in the second week of the semester. Students choose one of three exercises.</i>			1 hrs	Mon Wed Fri	16-17 12-13 13-14	CHN G22 CHN G22 CHN D42	<b>K. McNeill</b>
<b>752-0100-00L</b>	<b>Biochemistry</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
752-0100-00 V	Biochemie			2 hrs	Mon	14-16	HG E1.1	<b>C. Frei</b>

## ►► For the Specialization in Environmental Biology

Number	Title	Type	ECTS	Hours				Lecturers
<b>227-0399-10L</b>	<b>Physiology and Anatomy for Biomedical Engineers I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
227-0399-10 G	Physiology and Anatomy for Biomedical Engineers I			2 hrs	Tue	08-10	ETZ E8	<b>M. Wyss</b>

## ►► For the Specialization in Forest and Landscape

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0266-00L</b>	<b>Introduction to Dendrology</b>	<b>W</b>	<b>3 credits</b>	<b>3P</b>				
701-0266-00 P	Einführung in die Dendrologie <i>Unterricht rund zur Hälfte in Form von Exkursionen und Übungen im Wald (ETH Hölgerberg). Ausserdem 4 halbtägige Exkursionen an Fr Nachmittagen oder Wochenenden, nach Absprache (in der Umgebung von Zürich und Baden)</i>			3 hrs	Wed	15-17	HPT C103	<b>A. Rudow, M. Ibrahim</b>
<b>701-0951-00L</b>	<b>GIS - Introduction into Geoinformation Science and Technology</b> <i>Number of participants limited to 50. Waiting list will be deleted October 8th, 2021.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+3P</b>				
701-0951-00 V	GIST - Einführung in die räumlichen Informationswissenschaften und -technologien <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich per ZOOM statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	CHN E46	<b>M. A. M. Niederhuber</b>
701-0951-01 P	GIST - Einführung in die räumlichen Informationswissenschaften und -technologien <i>Für die Übungen müssen die Studierenden auf verschiedene Zeitfenster aufgeteilt werden. Zur Verfügung stehen: Dienstag 12 - 14 und Fr 14 - 16 Uhr. Bei Bedarf auch Mo 10 - 12. Eine Zuteilung wird in der ersten Semesterwoche durchgeführt. Übungsbetreuung im NO D39 wie auch ONLINE.</i>			3 hrs	Mon Tue Fri	10-12 12-14 14-16	NO D39 NO D39 NO D39	<b>M. A. M. Niederhuber</b>

## ► Natural Science and Technical Electives

### ►► Agroecology

Number	Title	Type	ECTS	Hours				Lecturers
<b>751-0013-00L</b>	<b>World Food System</b>	<b>W</b>	<b>4 credits</b>	<b>4V</b>				
751-0013-00 V	Welternährungssystem (World Food System)			4 hrs	Mon Fri	14-16 08-10	CAB G61 CAB G61	<b>A. K. Gilgen, J. Baumgartner, A. Bearth, R. Finger, M. Loessner, R. Mezzenga, B. Studer</b>
<b>751-1311-00L</b>	<b>Introduction to Agricultural Management</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
751-1311-00 V	Einführung in das Agrarmanagement			2 hrs	Wed	08-10	CAB G61	<b>R. Finger</b>
<b>751-3401-00L</b>	<b>Plant Nutrition I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
751-3401-00 V	Pflanzenernährung I			2 hrs	Tue	08-10	ML F36	<b>E. Frossard</b>
<b>751-3700-00L</b>	<b>Plant Ecophysiology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
751-3700-00 V	Ökophysiologie <i>Teile der Lehrveranstaltung wird in Englisch gehalten.</i>			2 hrs	Thu	16-18	LFW C5	<b>M. Gharun, M. Lehmann, A. Walter</b>
<b>751-5003-00L</b>	<b>Sustainable Agroecosystems II</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
751-5003-00 V	Sustainable Agroecosystems II			2 hrs	Thu/2w	14-18	LFW B1	<b>K. Benabderrazik, M. Hartmann</b>
<b>751-5005-00L</b>	<b>Agroecology and the Transition to Sustainable Food Systems</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				
751-5005-00 G	Agroecology and the Transition to Sustainable Food Systems <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	18-19 19-20	CHN C14 CHN E42 CHN E46	<b>M. Sonneveld, M. Grant, S. E. Ulbrich, B. Wehrli</b>
<b>751-7501-00L</b>	<b>Animal Housing and Behaviour</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>				
751-7501-00 V	Animal Housing and Behaviour			1 hrs	Thu/1	14-16	LFO C13	<b>J. Müller, S. Goumon</b>

### ►► Biomedicine

Number	Title	Type	ECTS	Hours				Lecturers
--------	-------	------	------	-------	--	--	--	-----------

<b>227-0399-10L</b>	<b>Physiology and Anatomy for Biomedical Engineers I</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
227-0399-10 G	Physiology and Anatomy for Biomedical Engineers I			2 hrs	Tue	08-10	ETZ E8	<b>M. Wyss</b>	
<b>551-0317-00L</b>	<b>Immunology I</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
551-0317-00 V	Immunology I			2 hrs	Tue	08-10	HG G3	<b>M. Kopf, A. Oxenius</b>	
<b>752-6001-00L</b>	<b>Introduction to Nutritional Science</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
752-6001-00 V	Introduction to Nutritional Science <i>Course is taught in English (M. Zimmermann) and German (Ch. Wolfrum)</i>			2 hrs	Fri	08-10	HG F7	<b>M. B. Zimmermann, C. Wolfrum</b>	

## ►► Soil Sciences

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0533-00L</b>	<b>Soil and Water Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-0533-00 G	Boden- und Wasserchemie			2 hrs	Wed	14-16	CHN F46	<b>R. Kretzschmar, D. I. Christl, L. Winkel</b>	
<b>701-0535-00L</b>	<b>Environmental Soil Physics/Vadose Zone Hydrology</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>					
701-0535-00 V	Environmental Soil Physics/Vadose Zone Hydrology			2 hrs	Wed	16-18	CHN E46	<b>A. Carminati, P. U. Lehmann Grunder</b>	
701-0535-00 U	Environmental Soil Physics/Vadose Zone Hydrology			1 hrs	Wed	18-19	CHN E46	<b>A. Carminati, P. U. Lehmann Grunder</b>	
<b>651-0032-00L</b>	<b>Geology and Petrography</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
651-0032-00 V	Geologie und Petrographie			2 hrs	Fri	10-12	HPH G2	<b>M. O. Saar, K. Rauchenstein</b>	
651-0032-00 U	Geologie und Petrographie <i>Groups are selected in myStudies. In Gruppen</i>			1 hrs	Fri/2w	12-14	HIL B18.2 HIL B18.2 HIL B21 HIL B21 HIL D10.2 HIL D10.2 HIL D53 HIL D53 HIL E10.1 HIL E10.1 HIL E5 HIL E5 14-16 HIL B18.2 HIL B18.2 HIL B21 HIL B21 HIL D10.2 HIL D10.2 HIL D53 HIL D53 HIL E10.1 HIL E10.1 HIL E5 HIL E5	<b>K. Rauchenstein</b>	
<b>651-3525-00L</b>	<b>Introduction to Engineering Geology</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
651-3525-00 V	Ingenieurgeologie			2 hrs	Mon	14-16	NO C6	<b>S. Löw, M. Ziegler</b>	
651-3525-00 U	Ingenieurgeologie <i>Groups are selected in myStudies. Die Übungen finden in zwei Gruppen statt, jeweils eine Stunde (12-13 oder 13-14).</i>			1 hrs	Tue	12-13 13-14	NO D11 NO D11	<b>S. Löw, L. de Palézieux dit Falconnet, M. Ziegler</b>	
<b>751-3401-00L</b>	<b>Plant Nutrition I</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
751-3401-00 V	Pflanzenernährung I			2 hrs	Tue	08-10	ML F36	<b>E. Frossard</b>	

## ►► Methodes of Statistical Data Analysis

Number	Title	Type	ECTS	Hours					Lecturers
<b>401-0625-01L</b>	<b>Applied Analysis of Variance and Experimental Design</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0625-01 V	Applied Analysis of Variance and Experimental Design			2 hrs	Mon	14-16	HG G5	<b>L. Meier</b>	
401-0625-01 U	Applied Analysis of Variance and Experimental Design			1 hrs	Mon/2w	16-18	HG E1.1	<b>L. Meier</b>	
<b>401-0649-00L</b>	<b>Applied Statistical Regression</b>	<b>W</b>	<b>5 credits</b>	<b>2V+1U</b>					
401-0649-00 V	Applied Statistical Regression			2 hrs	Mon	08-10	HG E1.2	<b>M. Dettling</b>	
401-0649-00 U	Applied Statistical Regression <i>Mon 10-12 might not work for all different programmes where this course is offered. On sufficient demand, other slots (tentatively Mon 15-17 or Fri 10-12) for the exercise sessions can be offered.</i>			1 hrs	Mon/2w	10-12	HG E1.2	<b>M. Dettling</b>	
<b>401-6215-00L</b>	<b>Using R for Data Analysis and Graphics (Part I)</b>	<b>W</b>	<b>1.5 credits</b>	<b>1G</b>					
401-6215-00 G	Using R for Data Analysis and Graphics (Part I)			14s hrs	Tue/1	14-16	CAB G11	<b>M. Mächler</b>	
<b>401-6217-00L</b>	<b>Using R for Data Analysis and Graphics (Part II)</b>	<b>W</b>	<b>1.5 credits</b>	<b>1G</b>					
401-6217-00 G	Using R for Data Analysis and Graphics (Part II)			14s hrs	Tue/2	14-16	CAB G11	<b>M. Mächler</b>	

## ►► Ecology and Conservation Biology



Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0305-00L</b>	<b>Vertebrate Ecology</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					<b>J. Senn</b> , K. Bollmann
701-0305-00 G	Ökologie der Wirbeltiere			2 hrs	Mon	16-18	CHN F46		
<b>701-0405-00L</b>	<b>Fresh Water: Concepts and Methods for Sustainable Management</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					<b>C. Scheidegger</b> , S. Fink, C. Weber, V. Weitbrecht
701-0405-00 G	Binnengewässer: Konzepte und Methoden für ein nachhaltiges Management			2 hrs	Mon	08-10	CHN G42		
<b>551-0421-00L</b>	<b>Biology and Ecology of Fungi in Forests</b>	<b>W</b>	<b>6 credits</b>	<b>7P</b>					
	<i>Number of participants limited to 10.</i>								
	<i>The enrolment is done by the D-BIOL study administration.</i>								
	<i>General safety regulations for all block courses: The COVID certificate is mandatory at ETH Zurich. Only students who have a Covid certificate, i.e. who have been vaccinated, have recovered or have been -Whenever possible the distance rules have to be respected -All students have to wear masks throughout the course. Please keep reserve masks ready. Surgical masks (IIR) or medical grade masks (FFP2) without a valve are permitted. Community masks (fabric masks) are not allowed. -The installation and activation of the Swiss Covid-App is highly encouraged -Any additional rules for individual courses have to be respected -Students showing any COVID-19 symptoms are not allowed to enter ETH buildings and have to inform the course responsible.</i>								
551-0421-00 P	Biologie und Ökologie der Pilze im Wald <i>Permission from lecturers required for all students</i> <i>Blockkurs im 2. Viertel des Herbstsemesters</i>			100s hrs	Tue/1 Wed/1 Thu/1 Fri/1	13-17 08-17 08-17 08-17	WSL LGE5 WSL LGE5 WSL LGE5 WSL LGE5	<b>S. Prospero</b> , I. L. Brunner, M. Peter Baltensweiler	
<b>751-3700-00L</b>	<b>Plant Ecophysiology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					<b>M. Gharun</b> , M. Lehmann, A. Walter
751-3700-00 V	Ökophysiologie <i>Teile der Lehrveranstaltung wird in Englisch gehalten.</i>			2 hrs	Thu	16-18	LFW C5		
<b>751-4801-00L</b>	<b>System-Oriented Management of Herbivore Insects</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					to be announced
751-4801-00 G	Systembezogene Bekämpfung herbivorer Insekten <i>Does not take place this semester.</i>			2 hrs					
<b>►► Environmental Chemistry/Ecotoxicology</b>									
Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0201-00L</b>	<b>Introduction to Environmental Organic Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					<b>M. Sander</b> , K. McNeill
701-0201-00 G	Introduction to Environmental Organic Chemistry			2 hrs	Tue	10-12	CHN F46		
<b>701-0225-00L</b>	<b>Organic Chemistry</b>	<b>W</b>	<b>2 credits</b>	<b>2V+1U</b>					<b>K. McNeill</b>
701-0225-00 V	Organic Chemistry <i>Vorlesung/lecture Mi/We 8-10 starts in the first week of the semester;</i>			2 hrs	Wed	08-10	CHN C14		
701-0225-00 U	Organic Chemistry <i>Exercises start in the second week of the semester.</i> <i>Students choose one of three exercises.</i>			1 hrs	Mon Wed Fri	16-17 12-13 13-14	CHN G22 CHN G22 CHN D42		
<b>529-0051-00L</b>	<b>Analytical Chemistry I</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					<b>D. Günther</b> , M.-O. Ebert, G. Schwarz, R. Zenobi
529-0051-00 G	Analytische Chemie I			3 hrs	Wed Thu	08-10 08-09	HCI G3 HPH G2		
<b>►► Environmental Physics</b>									
Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0479-00L</b>	<b>Environmental Fluid Dynamics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					<b>H. Wernli</b> , M. Röthlisberger
701-0479-00 G	Umwelt-Fluiddynamik			2 hrs	Fri	14-16	ML F38		
<b>101-0203-01L</b>	<b>Hydraulics I</b>	<b>W</b>	<b>5 credits</b>	<b>3V+1U</b>					<b>R. Stocker</b>
101-0203-01 V	Hydraulik I			3 hrs	Thu	10-13	HIL E1		

101-0203-01 U	Hydraulik I (in G) <i>Übungen Mi 08-09 oder 09-10 Uhr für Bauing und Umweltnaturwissenschaften</i> <i>Übungen Mi 12-13 oder 13-14 Uhr für Umweltingenieurwissenschaften</i>	1 hrs	Wed	08-09	HIL B18.2 HIL D60.1 HIL E5 HIL F10.3 HIL B18.2 HIL D60.1 HIL E5 HIL F10.3 HIL E9 HIL B21 HIL E9 HCI D8	<b>R. Stocker</b>
<b>102-0455-01L</b>	<b>Groundwater I</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>		
102-0455-01 G	Groundwater I <i>Excercises on Wednesdays, lecture on Fridays.</i>	3 hrs	Wed/2w Fri	16-18 10-12	CHN F46 HIL E8	<b>J. Jimenez-Martinez,</b> M. Willmann
<b>651-3561-00L</b>	<b>Cryosphere</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>		
651-3561-00 V	Kryosphäre	2 hrs	Tue	16-18	CAB G11	<b>M. Huss,</b> A. Bauder, D. Farinotti

## ►► Environmental Planning

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0009-00L</b>	<b>Tackling Environmental Problems III</b>	<b>W</b>	<b>3 credits</b>	<b>4U</b>				<b>C. E. Pohl</b> , M. Mader, B. B. Pearce
701-0009-00 U	Umweltproblemlösen III ■ <i>Die Lehrveranstaltung findet nach Vereinbarung statt.</i>			4 hrs				
<b>701-0901-00L</b>	<b>ETH Week 2021: Health for Tomorrow</b> <i>All ETH Bachelor's, Master's and exchange students can take part in the ETH week. No prior knowledge is required</i>	<b>W</b>	<b>1 credit</b>	<b>3S</b>				C. Bratrach, S. Brusoni, A. Burden, A. Cabello Llamas, R. Knutti, I. Mansuy, F. Rittiner, A. Vaterlaus, C. Wolfrum
701-0901-00 S	ETH Week 2021: Health for Tomorrow ■ <i>The ETH Week 2021 takes place from Sept. 12-17. The program is open to Bachelor and Master students from all ETH Departments. All students must apply through a competitive application process at <a href="http://www.ethz.ch/ethweek">www.ethz.ch/ethweek</a>. Participation is subject to successful selection through this competitive process.</i>			45s hrs				
<b>701-0951-00L</b>	<b>GIS - Introduction into Geoinformation Science and Technology</b> <i>Number of participants limited to 50. Waiting list will be deleted October 8th, 2021.</i>	<b>W</b>	<b>5 credits</b>	<b>2V+3P</b>				<b>M. A. M. Niederhuber</b>
701-0951-00 V	GIST - Einführung in die räumlichen Informationswissenschaften und -technologien <i>Online-Veranstaltung: Diese Lehrveranstaltung findet grundsätzlich per ZOOM statt. Die reservierten Räume bleiben für die Studierenden auf dem Campus bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	10-12	CHN E46	
701-0951-01 P	GIST - Einführung in die räumlichen Informationswissenschaften und -technologien <i>Für die Übungen müssen die Studierenden auf verschiedene Zeitfenster aufgeteilt werden. Zur Verfügung stehen: Dienstag 12 - 14 und Fr 14 - 16 Uhr. Bei Bedarf auch Mo 10 - 12. Eine Zuteilung wird in der ersten Semesterwoche durchgeführt. Übungsbetreuung im NO D39 wie auch ONLINE.</i>			3 hrs	Mon Tue Fri	10-12 12-14 14-16	NO D39 NO D39 NO D39	<b>M. A. M. Niederhuber</b>
<b>701-0967-00L</b>	<b>Project Development in Renewable Energies</b> <i>Number of participants limited to 30. Waiting list will be deleted October 6th, 2021.</i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>				<b>R. Rechsteiner</b> , A. Appenzeller
701-0967-00 G	Projektentwicklung im Bereich erneuerbarer Energien			2 hrs	Thu/2w	14-18	CHN F46	
<b>101-0415-01L</b>	<b>Public Transport and Railways</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				<b>A. Nash</b> , H. Orth, S. Schranil
101-0415-01 G	Public Transport and Railways			2 hrs	Fri	12-14	HIL E1	

## ► Specialization in an Environmental System

### ►► Atmosphere and Climate

*The following courses are highly recommended as preparation for the Specialization in Atmosphere and Climate:*

701-0106-00L Mathematik V: Angewandte Vertiefung von Mathematik I - III (Spring semester)  
402-0048-00L Fortgeschrittene Physik für Umwelt- und ErdwissenschaftlerInnen (Spring semester)

*These courses should be successfully completed during the second year.*

Number	Title	Type	ECTS	Hours					Lecturers
701-0459-00L	Seminar for Bachelor Students: Atmosphere and Climate	W	3 credits	2S					
701-0459-00 S	Seminar für Bachelor-Studierende: Atmosphäre und Klima			2 hrs	Thu	10-12	CHN F46	R. Knutti, H. Joos, O. Stebler	
701-0461-00L	Numerical Methods in Environmental Sciences	W	3 credits	2G					
701-0461-00 G	Numerische Methoden in der Umweltp Physik			2 hrs	Thu	08-10	CHN E46	C. Schär	
701-0471-01L	Atmospheric Chemistry	W	3 credits	2G					

701-0471-01 G	Atmosphärenchemie			2 hrs	Wed	08-10	CHN F46	<b>M. Ammann, T. Peter</b>
<b>701-0473-00L</b>	<b>Weather Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0473-00 G	Wettersysteme			2 hrs	Wed	14-16	CHN E46	<b>M. A. Sprenger, F. Scholder-Aemisegger</b>
<b>701-0475-00L</b>	<b>Atmospheric Physics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0475-00 G	Atmosphärenphysik <i>Im Anschluss an die LV findet ein freiwilliges, einstündiges Tutorial im gleichen Raum (CHN F46) statt.</i>			2 hrs	Wed	10-12	CHN F46	<b>U. Lohmann</b>

## ►► Biogeochemistry

The following courses are highly recommended as preparation for the Specialization in Biogeochemistry:

701-0225-00L Organic Chemistry (Autumn semester)  
752-0100-00L Biochemie (Autumn semester)  
752-1300-00L Introduction to Toxicology (Spring semester)

These courses should be successfully completed during the second year.

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0201-00L</b>	<b>Introduction to Environmental Organic Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0201-00 G	Introduction to Environmental Organic Chemistry			2 hrs	Tue	10-12	CHN F46	<b>M. Sander, K. McNeill</b>
<b>701-0419-01L</b>	<b>Seminar for Bachelor Students: Biogeochemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
701-0419-01 S	Seminar für Bachelor-Studierende: Biogeochemie			2 hrs	Wed	10-12	CHN F42	<b>D. I. Christl, A. N'Guyen van Chinh</b>
<b>701-0533-00L</b>	<b>Soil and Water Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0533-00 G	Boden- und Wasserchemie			2 hrs	Wed	14-16	CHN F46	<b>R. Kretzschmar, D. I. Christl, L. Winkel</b>
<b>701-0535-00L</b>	<b>Environmental Soil Physics/Vadose Zone Hydrology</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>				
701-0535-00 V	Environmental Soil Physics/Vadose Zone Hydrology			2 hrs	Wed	16-18	CHN E46	<b>A. Carminati, P. U. Lehmann Grunder</b>
701-0535-00 U	Environmental Soil Physics/Vadose Zone Hydrology			1 hrs	Wed	18-19	CHN E46	<b>A. Carminati, P. U. Lehmann Grunder</b>

## ►► Human-Environment Systems

There are no highly recommended courses for the Specialization in Human-Environment Systems.

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0658-00L</b>	<b>Seminar for Bachelor Students: Human Environment Systems</b>	<b>O</b>	<b>3 credits</b>	<b>2S</b>				
701-0658-00 S	Seminar für Bachelor-Studierende: Mensch-Umwelt Systeme			2 hrs	Tue	10-12	HG E22	<b>A. Müller, D. N. Bresch, R. Garrett, M. Siegrist</b>
<b>701-0659-00L</b>	<b>Tropical Forests, Agroforestry and Complex Socio-Ecological Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0659-00 G	Tropical Forests, Agroforestry and Complex Socio-Ecological Systems			2 hrs	Wed	14-16	CHN F42	<b>C. Garcia, A. Giger Dray, P. Waeber</b>
<b>701-0661-00L</b>	<b>Environmental Decision-Making</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
701-0661-00 V	Umweltentscheidungen ■			2 hrs	Thu	10-12	CHN F42	<b>A. Müller</b>
<b>363-0537-00L</b>	<b>Resource and Environmental Economics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Wed	10-12	HG G3	<b>L. Bretschger</b>
<b>851-0577-00L</b>	<b>Principles of Political Science</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
851-0577-00 V	Politikwissenschaft: Grundlagen			2 hrs	Fri	14-16	ETZ E8	<b>T. Bernauer</b>
851-0577-00 U	Politikwissenschaft: Grundlagen			1 hrs	Fri	16-17	ETZ E8	<b>T. Bernauer</b>

## ►► Environmental Biology

The following courses are highly recommended as preparation for the Specialization in Environmental Biology:

227-0399-10L Physiology and Anatomy for Biomedical Engineers I (Autumn semester)  
551-0435-00L Systematische Biologie: Zoologie (Spring semester)  
701-0360-00L Systematische Biologie: Pflanzen (Spring semester)  
227-0398-10L Physiology and Anatomy for Biomedical Engineers II (Spring semester)

These courses should be successfully completed during the second year.

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0301-00L</b>	<b>Applied Systems Ecology</b> <i>Number of participants limited to 35. Waiting list will be deleted October 3rd, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
701-0301-00 V	Angewandte Systemökologie <i>Lehrsprache Englisch oder Deutsch, wird zu Beginn mit den Studierenden entschieden.</i>			2 hrs	Tue	16-18	HG G26.5	<b>A. Gessler, C. Grossiord</b>
<b>701-0320-00L</b>	<b>Seminar for Bachelor Students:</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				

Environmental Biology								
701-0320-00 S	Seminar für Bachelor-Studierende: Umweltbiologie ■			2 hrs	Wed	10-12	CHN G22	D. Ramseier
701-1413-00L	Population and Quantitative Genetics	W	3 credits	2V				
701-1413-00 V	Population and Quantitative Genetics			2 hrs	Mon	14-16	HG D7.2	T. Städler, J. Stapley
701-1413-01L	Ecological Genetics	W	3 credits	2V				
701-1413-01 V	Ecological Genetics			2 hrs	Mon	10-12	ML F36	A. Widmer, S. Fior, M. C. Fischer

## ►► Forest and Landscape

The following courses are highly recommended as preparation for the Specialization in Forest and Landscape:

701-0266-00L Einführung in die Dendrologie (Autumn semester)  
 551-0435-00L Systematische Biologie: Zoologie (Spring semester)  
 701-0360-00L Systematische Biologie: Pflanzen (Spring semester)

These courses should be successfully completed during the second year.

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0535-00L</b>	<b>Environmental Soil Physics/Vadose Zone Hydrology</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>				
701-0535-00 V	Environmental Soil Physics/Vadose Zone Hydrology			2 hrs	Wed	16-18	CHN E46	<b>A. Carminati, P. U. Lehmann Grunder</b>
701-0535-00 U	Environmental Soil Physics/Vadose Zone Hydrology			1 hrs	Wed	18-19	CHN E46	<b>A. Carminati, P. U. Lehmann Grunder</b>
<b>701-0553-00L</b>	<b>Landscape Ecology</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-0553-00 G	Landschaftsökologie			2 hrs	Mon	14-16	CHN F46	<b>F. Kienast, L. Pellissier</b>
<b>701-0559-00L</b>	<b>Seminar for Bachelor Students: Forest and Landscape</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				
701-0559-00 S	Seminar für Bachelor-Studierende: Wald und Landschaft <i>Beginn 23.09.2021 Bekanntgabe des weiteren Ablaufs zu einem späteren Zeitpunkt (hängt ab von der Anzahl eingeschriebener Studierender).</i>			2 hrs	Thu	10-12	LFV E41	<b>M. Lévesque, E. Lieberherr</b>
<b>701-0561-00L</b>	<b>Forest Ecology</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
701-0561-00 V	Waldökologie			2 hrs	Wed	10-12	CHN G42	<b>C. Bigler</b>
<b>701-0565-00L</b>	<b>Fundamentals of Natural Hazards Management</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
701-0565-00 G	Grundzüge des Naturgefahrenmanagements <i>Does not take place this semester. Zusätzlich zwei obligatorische, ganztägige Exkursionen.</i>			3 hrs				<b>V. Griess, B. Krummenacher, S. Löw</b>
<b>701-0567-00L</b>	<b>Forest Health: Entomology and Pathology</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1P</b>				
701-0567-00 V	Waldgesundheit: Entomologie und Pathologie			2 hrs	Tue	10-12	CHN F42	<b>E. Brockerhoff, V. Queloz</b>
701-0567-00 P	Waldgesundheit: Entomologie und Pathologie			1 hrs	Wed/2w	12-14	CHN F42	<b>E. Brockerhoff, V. Queloz</b>

## ► Bachelor's Thesis

Students can choose between one Bachelor thesis of 10 KP or two Bachelor theses of 5 KP each.

Number	Title	Type	ECTS	Hours	Lecturers
701-0010-02L	Short Bachelor's Thesis in Social Sciences and Humanities	W	5 credits	11D	
701-0010-02 D	Kleine Bachelor-Arbeit in Sozial- und Geisteswissenschaften ■			150s hrs by appt.	Lecturers
701-0010-03L	Short Bachelor's Thesis in Natural Sciences and Engineering	W	5 credits	11D	
701-0010-03 D	Kleine Bachelor-Arbeit in Naturwissenschaften und Technik ■			150s hrs by appt.	Lecturers
701-0010-10L	Bachelor's Thesis	W	10 credits	21D	
701-0010-10 D	Bachelor-Arbeit ■			300s hrs by appt.	Lecturers

## Environmental Sciences Bachelor - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

## Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS ■ European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.

# Environmental Sciences Master

## ► Major in Atmosphere and Climate

### ►► Prerequisites

Number	Title	Type	ECTS	Hours				Lecturers	
<b>701-0471-01L</b>	<b>Atmospheric Chemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					<b>M. Ammann, T. Peter</b>
701-0471-01 G	Atmosphärenchemie			2 hrs	Wed	08-10	CHN F46		
<b>701-0473-00L</b>	<b>Weather Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					<b>M. A. Sprenger, F. Scholder-Aemisegger</b>
701-0473-00 G	Wettersysteme			2 hrs	Wed	14-16	CHN E46		
<b>701-0475-00L</b>	<b>Atmospheric Physics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					<b>U. Lohmann</b>
701-0475-00 G	Atmosphärenphysik <i>Im Anschluss an die LV findet ein freiwilliges, einstündiges Tutorial im gleichen Raum (CHN F46) statt.</i>			2 hrs	Wed	10-12	CHN F46		
<b>701-0461-00L</b>	<b>Numerical Methods in Environmental Sciences</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					<b>C. Schär</b>
701-0461-00 G	Numerische Methoden in der Umweltphysik			2 hrs	Thu	08-10	CHN E46		

### ►► Mandatory Courses

#### ►►► Introduction Course

Number	Title	Type	ECTS	Hours					Lecturers
701-1213-00L	Introduction Course to Master Studies Atmosphere and Climate	O	2 credits	2G					H. Joos, T. Peter
701-1213-00 G	Introduction Course to Master Studies Atmosphere and Climate 3 day block course in the week before semester, from 15-17 September 2021.			30s hrs	16.09. 17.09.	08-17 08-17	CHN C14 CHN C14		

More information at  
<http://www.iac.ethz.ch/edu/courses/master/obligatory-courses/introduction-course.html>.

#### ►►► Colloquia

Number	Title	Type	ECTS	Hours				Lecturers
<b>651-4095-01L</b>	<b>Colloquium Atmosphere and Climate 1</b>	<b>O</b>	<b>1 credit</b>	<b>1K</b>				<b>H. Joos, H. Wernli,</b> D. N. Bresch, D. Domeisen, N. Gruber, R. Knutti, U. Lohmann, T. Peter, C. Schär, S. Schemm, S. I. Seneviratne, M. Wild
651-4095-00 K	Colloquium Atmosphere and Climate <i>Contact person: Dr. Hanna Joos (IAC) hanna.joos@env.ethz.ch</i>			1 hrs	Mon	16-18	CAB G11	
<b>651-4095-02L</b>	<b>Colloquium Atmosphere and Climate 2</b>	<b>O</b>	<b>1 credit</b>	<b>1K</b>				<b>H. Joos, H. Wernli,</b> D. N. Bresch, D. Domeisen, N. Gruber, R. Knutti, U. Lohmann, T. Peter, C. Schär, S. Schemm, S. I. Seneviratne, M. Wild
651-4095-00 K	Colloquium Atmosphere and Climate <i>Contact person: Dr. Hanna Joos (IAC) hanna.joos@env.ethz.ch</i>			1 hrs	Mon	16-18	CAB G11	
<b>651-4095-03L</b>	<b>Colloquium Atmosphere and Climate 3</b>	<b>O</b>	<b>1 credit</b>	<b>1K</b>				<b>H. Joos, H. Wernli,</b> D. N. Bresch, D. Domeisen, N. Gruber, R. Knutti, U. Lohmann, T. Peter, C. Schär, S. Schemm, S. I. Seneviratne, M. Wild
651-4095-00 K	Colloquium Atmosphere and Climate <i>Contact person: Dr. Hanna Joos (IAC) hanna.joos@env.ethz.ch</i>			1 hrs	Mon	16-18	CAB G11	

#### ►►► Seminars

Number	Title	Type	ECTS	Hours				Lecturers
701-1211-01L	Master's Seminar: Atmosphere and Climate 1 <i>Target groups only: Master Environmental Science Master Atmospheric and Climate Science</i>	O	3 credits	2S				
701-1211-01 S	Master's Seminar: Atmosphere and Climate ■ <i>Permission from lecturers required for all students</i>			2 hrs	Mon	08-10	ML F40	H. Joos, R. Knutti, A. Merrifield Könz, M. A. Wüest
701-1211-02L	Master's Seminar: Atmosphere and Climate 2 <i>Target groups only: Master Environmental Science Master Atmospheric and Climate Science</i>	O	3 credits	2S				
701-1211-01 S	Master's Seminar: Atmosphere and Climate ■ <i>Permission from lecturers required for all students</i>			2 hrs	Mon	08-10	ML F40	H. Joos, R. Knutti, A. Merrifield Könz, M. A. Wüest

### ►► Weather Systems and Atmospheric Dynamics

Number	Title	Type	ECTS	Hours					Lecturers
--------	-------	------	------	-------	--	--	--	--	-----------

<b>701-1221-00L</b>	<b>Dynamics of Large-Scale Atmospheric Flow</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
701-1221-00 V	Dynamics of Large-Scale Atmospheric Flow			2 hrs	Wed	09-11	CHN E42	<b>H. Wernli, L. Papritz</b>	
701-1221-00 U	Dynamics of Large-Scale Atmospheric Flow			1 hrs	Wed	11-12	CHN E42	<b>H. Wernli, L. Papritz</b>	
<b>651-4053-05L</b>	<b>Boundary Layer Meteorology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
651-4053-05 G	Boundary Layer Meteorology			3 hrs	Fri	08-10 12-13	CAB G51 CAB G61	<b>M. Rotach, P. Calanca</b>	

## ►► Climate Processes and Feedbacks

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1235-00L</b>	<b>Cloud Microphysics</b> <i>Number of participants limited to 16.</i>  <i>Priority is given to PhD students majoring in Atmospheric and Climate Sciences, and remaining open spaces will be offered to the following groups:</i> <i>- PhD student Environmental sciences</i> <i>- MSc in Atmospheric and climate science</i> <i>- MSc in Environmental sciences</i>  <i>All participants will be on the waiting list at first. Enrollment is possible until September 22nd, 2021. The waiting list is active until October 1st, 2021. All students will be informed on September 16th, if they can participate in the lecture.</i> <i>The lecture takes place if a minimum of 5 students register for it.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
701-1235-00 V	Cloud Microphysics			2 hrs	Tue	10-12	CHN G22	<b>U. Lohmann, N. Shardt</b>	
701-1235-00 U	Cloud Microphysics			1 hrs	Tue	12-13	CHN G22	<b>U. Lohmann, N. Shardt</b>	
<b>701-1251-00L</b>	<b>Land-Climate Dynamics</b> <i>Number of participants limited to 36.</i> <i>Priority is given to the target groups:</i> <i>- Master Environmental Science,</i> <i>- Master Atmospheric and Climate Science and</i> <i>- PhD D-USYS</i> <i>until September 20th, 2021.</i> <i>Waiting list will be deleted September 27th, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1251-00 G	Land-Climate Dynamics			2 hrs	Tue 05.10.	14-16 14-16	CHN E42 HG E19	<b>S. I. Seneviratne, R. Padrón Flasher</b>	

## ►► Atmospheric Composition and Cycles

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1233-00L</b>	<b>Stratospheric Chemistry</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
701-1233-00 V	Stratospheric Chemistry			2 hrs	Thu	14-16	CHN F42	<b>T. Peter, G. Chiodo</b>	
701-1233-00 U	Stratospheric Chemistry <i>Exercises start in the second week of the semester.</i>			1 hrs	Thu	13-14	CHN F42	<b>T. Peter, G. Chiodo</b>	
<b>701-1239-00L</b>	<b>Aerosols I: Physical and Chemical Principles</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
701-1239-00 V	Aerosols I: Physical and Chemical Principles			2 hrs	Mon	14-16	CAB G52	<b>M. Gysel Beer, D. Bell, E. Weingartner</b>	
701-1239-00 U	Aerosols I: Physical and Chemical Principles			1 hrs	Mon	13-14	CAB G52	<b>M. Gysel Beer, D. Bell, E. Weingartner</b>	

## ►► Climate History and Paleoclimatology

Number	Title	Type	ECTS	Hours					Lecturers
<b>651-4057-00L</b>	<b>Climate History and Palaeoclimatology</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
651-4057-00 G	Climate History and Palaeoclimatology			2 hrs	Fri	10-12	ML F39	<b>H. Stoll, I. Hernández Almeida, H. Zhang</b>	

## ►► Hydrology and Water Cycle

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1251-00L</b>	<b>Land-Climate Dynamics</b> <i>Number of participants limited to 36.</i> <i>Priority is given to the target groups:</i> <i>- Master Environmental Science,</i> <i>- Master Atmospheric and Climate Science and</i> <i>- PhD D-USYS</i> <i>until September 20th, 2021.</i> <i>Waiting list will be deleted September 27th, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1251-00 G	Land-Climate Dynamics			2 hrs	Tue 05.10.	14-16 14-16	CHN E42 HG E19	<b>S. I. Seneviratne, R. Padrón Flasher</b>	
<b>701-1253-00L</b>	<b>Analysis of Climate and Weather Data</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					

701-1253-00 G	Analysis of Climate and Weather Data <i>Does not take place this semester.</i>			2 hrs					<b>C. Frei</b>
<b>102-0468-10L</b>	<b>Watershed Modelling</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
102-0468-10 G	Watershed Modelling <i>Remark: New course replacing 102-0237-00 Hydrology II (until HS19) and 102-0468-00 Watershed Modeling (until FS20).</i>			4 hrs	Mon Wed	16-18 12-14	HIL E8 HIL E8		<b>P. Molnar</b>
<b>651-4053-05L</b>	<b>Boundary Layer Meteorology</b>	<b>Z</b>	<b>4 credits</b>	<b>3G</b>					
651-4053-05 G	Boundary Layer Meteorology			3 hrs	Fri	08-10 12-13	CAB G51 CAB G61		<b>M. Rotach, P. Calanca</b>

## ►► Electives

### ►►► Weather Systems and Atmospheric Dynamics

Number	Title	Type	ECTS	Hours	Lecturers				
<b>701-1281-00L</b>	<b>Self-Learning Course on Advanced Topics in Atmospheric and Climate Science (HS)</b> <i>Please contact one of the professors listed under prerequisites/notice if you plan to take this course.</i>  <i>Students are allowed to enroll in both courses 701-1280-00L &amp; 701-1281-00L Self-learning Course on Advanced Topics in Atmospheric and Climate Science but have to choose different supervisors.</i>	<b>W</b>	<b>3 credits</b>	<b>6A</b>					
701-1281-00 A	Self-Learning Course on Advanced Topics in Atmospheric and Climate Science ■			90s hrs	by appt.				Supervisors

### ►►► Climate Processes and Feedbacks

Number	Title	Type	ECTS	Hours	Lecturers				
<b>701-1221-00L</b>	<b>Dynamics of Large-Scale Atmospheric Flow</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
701-1221-00 V	Dynamics of Large-Scale Atmospheric Flow			2 hrs	Wed	09-11	CHN E42		<b>H. Wernli, L. Papritz</b>
701-1221-00 U	Dynamics of Large-Scale Atmospheric Flow			1 hrs	Wed	11-12	CHN E42		<b>H. Wernli, L. Papritz</b>
<b>701-1257-00L</b>	<b>European Climate Change</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1257-00 G	European Climate Change			2 hrs	Mon	10-12	LFO C13		<b>C. Schär, J. Rajczak, S. C. Scherrer</b>
<b>701-1281-00L</b>	<b>Self-Learning Course on Advanced Topics in Atmospheric and Climate Science (HS)</b> <i>Please contact one of the professors listed under prerequisites/notice if you plan to take this course.</i>  <i>Students are allowed to enroll in both courses 701-1280-00L &amp; 701-1281-00L Self-learning Course on Advanced Topics in Atmospheric and Climate Science but have to choose different supervisors.</i>	<b>W</b>	<b>3 credits</b>	<b>6A</b>					
701-1281-00 A	Self-Learning Course on Advanced Topics in Atmospheric and Climate Science ■			90s hrs	by appt.				Supervisors
<b>651-4057-00L</b>	<b>Climate History and Palaeoclimatology</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
651-4057-00 G	Climate History and Palaeoclimatology			2 hrs	Fri	10-12	ML F39		<b>H. Stoll, I. Hernández Almeida, H. Zhang</b>

### ►►► Atmospheric Composition and Cycles

Number	Title	Type	ECTS	Hours	Lecturers				
<b>701-1235-00L</b>	<b>Cloud Microphysics</b> <i>Number of participants limited to 16.</i>  <i>Priority is given to PhD students majoring in Atmospheric and Climate Sciences, and remaining open spaces will be offered to the following groups:</i> - PhD student Environmental sciences - MSc in Atmospheric and climate science - MSc in Environmental sciences  <i>All participants will be on the waiting list at first. Enrollment is possible until September 22nd, 2021. The waiting list is active until October 1st, 2021. All students will be informed on September 16th, if they can participate in the lecture.</i> <i>The lecture takes place if a minimum of 5 students register for it.</i>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
701-1235-00 V	Cloud Microphysics			2 hrs	Tue	10-12	CHN G22		<b>U. Lohmann, N. Shardt</b>
701-1235-00 U	Cloud Microphysics			1 hrs	Tue	12-13	CHN G22		<b>U. Lohmann, N. Shardt</b>
<b>701-1281-00L</b>	<b>Self-Learning Course on Advanced</b>	<b>W</b>	<b>3 credits</b>	<b>6A</b>					

### Topics in Atmospheric and Climate Science (HS)

Please contact one of the professors listed under prerequisites/notice if you plan to take this course.

Students are allowed to enroll in both courses 701-1280-00L & 701-1281-00L Self-learning Course on Advanced Topics in Atmospheric and Climate Science but have to choose different supervisors.

701-1281-00 A	Self-Learning Course on Advanced Topics in Atmospheric and Climate Science ■			90s hrs	by appt.				Supervisors
<b>102-0635-01L</b>	<b>Air Pollution Control</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
102-0635-01 G	Luftreinhaltung			4 hrs	Wed Fri	10-12 08-10	HIL E6 HIL E6		<b>J. Wang</b> , B. Buchmann
<b>651-4053-05L</b>	<b>Boundary Layer Meteorology</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
651-4053-05 G	Boundary Layer Meteorology			3 hrs	Fri	08-10 12-13	CAB G51 CAB G61		<b>M. Rotach</b> , P. Calanca

### ►►► Climate History and Palaeoclimatology

Number	Title	Type	ECTS	Hours	Lecturers				
<b>701-1281-00L</b>	<b>Self-Learning Course on Advanced Topics in Atmospheric and Climate Science (HS)</b>	<b>W</b>	<b>3 credits</b>	<b>6A</b>					
	Please contact one of the professors listed under prerequisites/notice if you plan to take this course.								
	Students are allowed to enroll in both courses 701-1280-00L & 701-1281-00L Self-learning Course on Advanced Topics in Atmospheric and Climate Science but have to choose different supervisors.								
701-1281-00 A	Self-Learning Course on Advanced Topics in Atmospheric and Climate Science ■			90s hrs	by appt.				Supervisors
<b>651-4041-00L</b>	<b>Sedimentology I: Physical Processes and Sedimentary Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
651-4041-00 G	Sedimentology I: Physical Processes and Sedimentary Systems			28s hrs	Tue/1 Wed/1	14-16 10-12	NO D11 NO D11		<b>V. Picotti</b>
<b>651-4043-00L</b>	<b>Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	Prerequisite: Successful completion of the MSc-course "Sedimentology I" (651-4041-00L).								
651-4043-00 G	Sedimentology II: Biological and Chemical Processes in Lacustrine and Marine Systems			28s hrs	Tue/2 Wed/2	14-16 10-12	NO D11 NO D11		<b>V. Picotti</b> , A. Gilli, I. Hernández Almeida, H. Stoll
<b>651-4901-00L</b>	<b>Quaternary Dating Methods</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
651-4901-00 G	Quaternary Dating Methods			2 hrs	Tue 12.10.	08-10 08-10	NO E11 HPK D24.2		<b>I. Hajdas</b> , M. Christl, S. Ivy Ochs

### ►►► Hydrology and Water Cycle

Number	Title	Type	ECTS	Hours	Lecturers				
<b>701-0535-00L</b>	<b>Environmental Soil Physics/Vadose Zone Hydrology</b>	<b>W</b>	<b>3 credits</b>	<b>2V+1U</b>					
701-0535-00 V	Environmental Soil Physics/Vadose Zone Hydrology			2 hrs	Wed	16-18	CHN E46		<b>A. Carminati</b> , P. U. Lehmann Grunder
701-0535-00 U	Environmental Soil Physics/Vadose Zone Hydrology			1 hrs	Wed	18-19	CHN E46		<b>A. Carminati</b> , P. U. Lehmann Grunder
<b>701-1281-00L</b>	<b>Self-Learning Course on Advanced Topics in Atmospheric and Climate Science (HS)</b>	<b>W</b>	<b>3 credits</b>	<b>6A</b>					
	Please contact one of the professors listed under prerequisites/notice if you plan to take this course.								
	Students are allowed to enroll in both courses 701-1280-00L & 701-1281-00L Self-learning Course on Advanced Topics in Atmospheric and Climate Science but have to choose different supervisors.								
701-1281-00 A	Self-Learning Course on Advanced Topics in Atmospheric and Climate Science ■			90s hrs	by appt.				Supervisors
<b>102-0287-00L</b>	<b>River Basin Erosion</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
102-0287-00 G	River Basin Erosion Remark: Title until HS20: Fluvial Systems.			2 hrs	Thu	14-16	HIL E6		<b>P. Molnar</b>
<b>651-2915-00L</b>	<b>Seminar in Hydrology</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>					



651-2915-00 S	Seminar in Hydrology			8s hrs					<b>P. Burlando</b> , J. W. Kirchner, S. Löw, C. Schär, M. Schirmer, S. I. Seneviratne, M. Stähli, C. H. Stamm, University lecturers
<b>651-4023-00L</b>	<b>Groundwater</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
651-4023-00 G	Groundwater			4 hrs	Mon Thu	16-18 08-10	NO E39 NO C44		<b>X.-Z. Kong</b> , B. Marti
<b>860-0012-00L</b>	<b>Cooperation and Conflict Over International Water Resources</b> <i>Number of participants limited to 40. Priority for Science, Technology, and Policy MSc.</i>  <i>This is a research seminar at the Master level. PhD students are also welcome.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
860-0012-00 S	Cooperation and Conflict Over International Water Resources			2 hrs	Tue	12-14	LEE D105		<b>B. Wehrli</b> , T. Bernauer, E. Calamita, T. U. Siegfried

### ►►► Additional Elective Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1237-00L</b>	<b>Solar Ultraviolet Radiation</b>	<b>W</b>	<b>1 credit</b>	<b>1V</b>					
701-1237-00 V	Solar Ultraviolet Radiation <i>Unregelmässige Lehrveranstaltung</i>			1 hrs	Wed/2w 10.11.	14-16 14-16	HG D3.1 HG D3.1		<b>J. Gröbner</b> , S. Kazantzis
<b>701-1271-00L</b>	<b>Statistical Learning for Atmospheric and W Climate Science</b> <i>Number of participants limited to 30. Enrollment starts on September 20th, 2021. Priority is given to the target groups: Master Environmental Science and Master Atmospheric and Climate Science until September 27th, 2021. Waiting list will be deleted October 4th, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1271-00 G	Statistical Learning for Atmospheric and Climate Science			2 hrs	Tue	08-10	CHN G42		<b>L. Gudmundsson</b> , S. Sippel
<b>701-3001-00L</b>	<b>Environmental Systems Data Science</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-3001-00 G	Environmental Systems Data Science			2 hrs	Tue	08-10	CHN D44 CHN D46 CHN F42 CHN G22 HG D1.1		<b>L. Pellissier</b> , J. Payne, B. Stocker
<b>651-4273-00L</b>	<b>Numerical Modelling in Fortran</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
651-4273-00 V	Numerical Modelling in Fortran			2 hrs	Mon	16-18	NO C6		<b>P. Tackley</b>
<b>651-4273-01L</b>	<b>Numerical Modelling in Fortran (Project)</b> <i>Prerequisite: 651-4273-00L Numerical Modelling in Fortran</i>	<b>W</b>	<b>1 credit</b>	<b>1U</b>					
651-4273-01 U	Numerical Modelling in Fortran (Project)			1 hrs	by appt.				<b>P. Tackley</b>

### ► Major in Biogeochemistry and Pollutant Dynamics

#### ►► Biogeochemical Processes

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1313-00L</b>	<b>Isotopes and Biomarkers in Biogeochemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1313-00 G	Isotopes and Biomarkers in Biogeochemistry			2 hrs	Tue	14-16	CHN F42		<b>C. Schubert</b> , R. Kipfer
<b>701-1315-00L</b>	<b>Biogeochemistry of Trace Elements</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1315-00 G	Biogeochemistry of Trace Elements			2 hrs	Tue	10-12	LFV E41		<b>A. Voegelin</b> , S. Bouchet, L. Winkel
<b>701-1316-00L</b>	<b>Physical Transport Processes in the Natural Environment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1316-00 G	Physical Transport Processes in the Natural Environment			2 hrs	Mon	16-18	ML H34.3		<b>J. W. Kirchner</b>

#### ►► Applications

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1341-00L</b>	<b>Water Resources and Drinking Water</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1341-00 G	Water Resources and Drinking Water <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	08-10	CAB G11		<b>S. Hug</b> , M. Berg, F. Hammes, U. von Gunten
<b>701-1346-00L</b>	<b>Carbon Mitigation</b> <i>Number of participants limited to 90. Priority is given to the target groups: Bachelor and Master Environmental Sciences and PHD Environmental Sciences until September 21st, 2021. Waiting list will be deleted October 1st, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1346-00 G	Carbon Mitigation			2 hrs	Mon	10-12	CHN C14		<b>N. Gruber</b>

<b>701-1351-00L</b>	<b>Nanomaterials in the Environment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1351-00 G	Nanomaterials in the Environment			2 hrs	Mon	14-16	CHN D46	<b>B. Nowack</b> , T. Bucheli, D. Mitrano	
<b>860-0012-00L</b>	<b>Cooperation and Conflict Over International Water Resources</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
	<i>Number of participants limited to 40. Priority for Science, Technology, and Policy MSc.</i>								
	<i>This is a research seminar at the Master level. PhD students are also welcome.</i>								
860-0012-00 S	Cooperation and Conflict Over International Water Resources			2 hrs	Tue	12-14	LEE D105	<b>B. Wehrli</b> , T. Bernauer, E. Calamita, T. U. Siegfried	

## ►► Methods and Tools: Lab Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1331-00L</b>	<b>Biogeochemistry of Trace Elements Laboratory</b>	<b>W</b>	<b>3 credits</b>	<b>4P</b>					
	<i>Number of participants limited to 16. Priority is given to the target groups: Master Environmental Science until October 15th, 2021. Waiting list will be deleted October 22nd, 2021.</i>								
701-1331-00 P	Biogeochemistry of Trace Elements Laboratory ■ <i>The course starts at 8:30 in the morning.</i>			4 hrs	Thu/2	08-18	CHN D51	<b>L. K. Thomas Arrigo</b> , K. Barmettler	
<b>701-1333-00L</b>	<b>Isotopes and Biomarkers in Biogeochemistry Laboratory</b>	<b>W</b>	<b>3 credits</b>	<b>4P</b>					
	<i>Number of participants limited to 14. Waiting list will be deleted September 20th, 2021. No enrollment possible after September 21st, 2021.</i>								
701-1333-00 P	Isotopes and Biomarkers in Biogeochemistry Laboratory ■ <i>1st half of the semester. Sampling takes place at Rotsee near Luzern. Practical Lab work takes place at EAWAG Kastanienbaum/Duebendorf (room on appointment)</i>			4 hrs	Thu/1	08-18	EAW -EAWAG	<b>C. Schubert</b> , R. Kipfer	
<b>701-1337-00L</b>	<b>Forest Soils in a Changing Environment</b>	<b>W</b>	<b>3 credits</b>	<b>6P</b>					
701-1337-00 P	Forest Soils in a Changing Environment <i>Zeit: jeweils am Donnerstag in der zweiten Hälfte des HS Ort: WSL in Birmensdorf</i>			6 hrs				<b>F. Hagedorn</b> , P. F. Schleppi	
<b>701-1339-00L</b>	<b>Soil Solids Laboratory</b>	<b>W</b>	<b>3 credits</b>	<b>4G</b>					
	<i>Number of participants limited to 12. Priority is given to the target groups: Master Environmental Science until October 15th, 2021. Waiting list will be deleted September 23rd, 2021.</i>								
701-1339-00 G	Soil Solids Laboratory <i>Permission from lecturers required for all students Die Vorlesung/Einweisung in die Laborexperimente findet immer von 8-10 im HIL E5 statt. Die Laborexperimente werden anschliessend von 10 bis 17 Uhr im HIF D13 – D21 ausgeführt.</i>			4 hrs	Thu/1	08-10 10-17	HIL E5 HIF D13	<b>M. Plötze</b>	
<b>701-1673-00L</b>	<b>Environmental Measurement Laboratory</b>	<b>W</b>	<b>5 credits</b>	<b>4G</b>					
	<i>Number of participants limited to 24.  Waiting list will be deleted September 24th, 2021.</i>								
701-1673-00 G	Environmental Measurement Laboratory <i>First lecture will be on September 21, 2021.</i>			4 hrs	Tue 21.09. 05.10.	14-18 14-16 14-16	CHN E46 HCI J3 HIL D10.2	<b>P. U. Lehmann Grunder</b> , A. Carminati	

## ►► Semester Paper and Seminar

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1302-00L</b>	<b>Term Paper 2: Seminar</b>	<b>O</b>	<b>2 credits</b>	<b>1S</b>					
	<i>Prerequisite: Term Paper 1: Writing (701-1303-00L).</i>								
	<i>Only for Environmental Sciences MSc and Science, Technology and Policy MSc.</i>								
701-1302-00 S	Term Paper: Seminar ■			1 hrs	Fri	14-16	CHN E42	<b>L. Winkel</b> , M. Ackermann, N. Casacuberta Arola, K. Deiner, N. Gruber, J. Hering, R. Kipfer, R. Kretzschmar, K. McNeill, D. Mitrano, A. N'Guyen van Chinh, M. Sander, M. H. Schroth, C. Schubert	

<b>701-1303-00L</b>	<b>Term Paper 1: Writing</b> <i>Only for Environmental Sciences MSc and Science, Technology and Policy MSc.</i>	<b>O</b>	<b>5 credits</b>	<b>6A</b>					
701-1303-00 A	Term Paper 1: Writing ■ <i>Unregelmässige Lehrveranstaltung</i>			6 hrs	Fri	14-16	CHN E42	<b>L. Winkel</b> , M. Ackermann, N. Casacuberta Arola, K. Deiner, N. Gruber, J. Hering, R. Kipfer, R. Kretzschmar, M. Lever, K. McNeill, D. Mitrano, A. N'Guyen van Chinh, M. Sander, M. H. Schroth, C. Schubert	

## ►► Electives

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-3001-00L</b>	<b>Environmental Systems Data Science</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-3001-00 G	Environmental Systems Data Science			2 hrs	Tue	08-10	CHN D44 CHN D46 CHN F42 CHN G22 HG D1.1	<b>L. Pellissier</b> , J. Payne, B. Stocker	
					21.09.	08-10			

## ► Major in Ecology and Evolution

### ►► A. Fundamentals

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0328-00L</b>	<b>Advanced Ecological Processes</b> <i>For students of the following study programmes only: Biology Master Teaching certificate Biology Environmental Sciences Master UZH MNF Biology UZH MNF Geography /Earth Sciences</i>	<b>W</b>	<b>4 credits</b>	<b>2V</b>					
701-0328-00 V	Advanced Ecological Processes			2 hrs	Mon	12-14	CHN F42	<b>J. Hille Ris Lambers</b>	
<b>701-1427-00L</b>	<b>Experimental Evolution</b> <i>Semester change. This lecture will be offered in Spring Semester 2022 for the next time.</i>	<b>W</b>	<b>4 credits</b>	<b>2S</b>					
701-1427-00 S	Experimental Evolution <i>Does not take place this semester. Diese Lehrveranstaltung wird im HS21 nicht angeboten. Sie wird das nächste Mal im FS22 angeboten.</i>			2 hrs					<b>G. Velicer</b> , A. Hall

### ►► B. Concept Courses and Applications

#### ►►► Advanced Concept Classes

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0263-01L</b>	<b>Seminar in Evolutionary Ecology of Infectious Diseases</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-0263-01 G	Seminar in Evolutionary Ecology of Infectious Diseases			2 hrs	Tue	16-18	CHN F42	<b>R. R. Regös</b> , S. Bonhoeffer	
<b>701-1409-00L</b>	<b>Research Seminar: Ecological Genetics</b> <i>Minimum number of participants is 5.</i>	<b>W</b>	<b>2 credits</b>	<b>1S</b>					
701-1409-00 S	Research Seminar: Ecological Genetics <i>or by arrangement</i>			1 hrs	Wed	11-12	CHN D46	<b>S. Fior</b>	
<b>701-1471-00L</b>	<b>Ecological Parasitology</b> <i>Number of participants limited to 20. A minimum of 6 students is required that the course will take place.  Waiting list will be deleted on October 1st, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>1V+1P</b>					
701-1471-00 V	Ecological Parasitology ■ <i>The lecture takes place irregularly.</i>			14s hrs	Tue	08-10	CHN G46	<b>J. Jokela</b> , C. Vorburger	
701-1471-00 P	Ecological Parasitology ■ <i>Daten der Veranstaltung: 05.10.; 19.10.; 09.11 Zeit: 8:15 - 12:00 Ort der Veranstaltung: EAWAG Dübendorf</i>			12s hrs	05.10. 19.10. 09.11.	08-12 08-12 08-12	EAW -EAWAG EAW -EAWAG EAW -EAWAG	<b>J. Jokela</b> , C. Vorburger	
<b>701-1676-01L</b>	<b>Genomics of Environmental Adaptation</b> <i>Number of participants limited to 14.  Waiting list will be deleted January 20th, 2022.  Prerequisites: good knowledge in population genetics and some experience in using GIS and R is required.</i>	<b>W</b>	<b>2 credits</b>	<b>3G</b>					
701-1676-01 G	Genomics of Environmental Adaptation <i>Blockkurs: 07. bis 11.02.2022 Ort der Veranstaltung: EP D01 / LG E05 WSL Birmensdorf</i>			40s hrs					<b>R. Holderegger</b> , F. Gugerli, C. Rellstab
<b>701-1703-00L</b>	<b>Evolutionary Medicine for Infectious</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					

## Diseases

Number of participants limited to 35.

Waiting list will be deleted October 3rd, 2021.

701-1703-00 G	Evolutionary Medicine for Infectious Diseases		2 hrs	Fri	10-12	HG E41	<b>A. Hall</b>
<b>636-0017-00L</b>	<b>Computational Biology</b>	<b>W</b>	<b>6 credits</b>	<b>3G+2A</b>			
636-0017-00 G	Computational Biology <i>The lecture will be held each Monday (16-18 h) either in Zurich or Basel and will be transmitted via videoconference to the second location. Tutorials will happen in both locations. Tutorials in Zürich: Monday 18-19h (HG D 16.2) Tutorials in Basel: Thursday 12-13h (BSA E 46) Lecture on Monday and the Tutorial on Thursday will also be available for participation via Zoom. ATTENTION: Lecture starts on Monday, 27.09, First Tutorial in Basel on Thursday 30.09</i>		3 hrs	Mon	16-18	BSA E46 HG D16.2 HG D16.2 BSA E46	<b>T. Vaughan</b>
636-0017-00 A	Computational Biology <i>Project Work (compulsory continuous performance assessments), no fixed presence required.</i>		2 hrs				<b>T. Vaughan</b>
<b>751-5101-00L</b>	<b>Biogeochemistry and Sustainable Management</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>			
751-5101-00 G	Biogeochemistry and Sustainable Management <i>Does not take place this semester.</i>		2 hrs				W. Eugster, V. Klaus

## ►►► Applications

Number	Title	Type	ECTS	Hours				Lecturers
701-1453-00L	Ecological Assessment and Evaluation	W	3 credits	3G				
701-1453-00 G	Ecological Assessment and Evaluation			3 hrs	Mon	16-19	CHN E46	F. Knaus
701-1613-01L	Advanced Landscape Research	W	5 credits	3G				
701-1613-01 G	Advanced Landscape Research <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	09-12	HG D3.1	J. Bolliger, M. Bürgi, U. Gimmi, M. Hunziker
701-1631-00L	Foundations of Ecosystem Management	W	5 credits	3G				
701-1631-00 G	Foundations of Ecosystem Management			3 hrs	Thu	10-13	CHN G46 HG E41	J. Ghazoul, C. Garcia, J. Garcia Ulloa, A. Giger Dray
					23.09.	10-13	HG E33.1	

## ►► C. Scientific Skills

### ►►► Quantitative and Computational Expertise

Number	Title	Type	ECTS	Hours					Lecturers
701-1677-00L	Quantitative Vegetation Dynamics: Models from Tree to Globe	W	3 credits	3G					
701-1677-00 G	Quantitative Vegetation Dynamics: Models from Tree to Globe <i>Online event: Will primarily take place online (Zoom). Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Fri	14-17	CHN G22		H. Lischke, U. Hiltner, B. Rohner
701-1679-00L	Landscape Modelling of Biodiversity: From Global Changes to Conservation	W	5 credits	3G					
701-1679-00 G	Landscape Modelling of Biodiversity: From Global Changes to Conservation			3 hrs	Fri	09-12	CHN F46		L. Pellissier, N. Zimmermann

### ►►► Laboratory and Field Expertise

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-1425-01L</b>	<b>Genetic Diversity: Techniques</b> <i>Number of participants limited to 8.</i>	<b>W</b>	<b>2 credits</b>	<b>4P</b>				
	<i>Waiting list will be deleted November 1st, 2021.</i>							
	<i>No enrollment possible after October 18th, 2021.</i>							
701-1425-01 P	Genetic Diversity: Techniques <i>Language of the course: English</i>			60s hrs				<b>A. M. Minder Pfyl</b>
	<i>Start of the course: Wednesday, 3.11.21 at 13:15-17:00, end of the course: Wednesday, 24.11.21 at 13:15-17:00, individual work in between (about one whole day per week preferably Monday to Wednesday). Course room for the introduction and final discussion will be announced, lab work has to be done at the GDC.</i>							
<b>701-1437-00L</b>	<b>Aquatic Ecology I</b>	<b>W</b>	<b>3 credits</b>	<b>3V</b>				
701-1437-00 V	Aquatic Ecology I <i>Unregelmässige Lehrveranstaltung</i>			40s hrs	Wed/1 Thu/1	08-12 08-12	EAW -EAWAG P. Spaak, F. Altermatt, EAW -EAWAG C. T. Robinson	
<b>701-1437-03L</b>	<b>Aquatic Ecology II</b> <i>Number of participants is limited. The maximal participating number of students is</i>	<b>W</b>	<b>5 credits</b>	<b>6U</b>				

8 from D-USYS and 14 from D-BIOL (ETH & UZH).  
Target groups only: Bachelor Biology, Master Environmental Sciences and UZH MNF Biology.

Registration for the course until September 5th, 2021, free places will be distributed later. Students registering later cannot be guaranteed a place in the course. Waiting list will be deleted September 17th, 2021. Students have to enroll together with the lecture Aquatic Ecology I (701-1437-00V) and the Identification Courses Macroinvertebrates (701-1437-01L) and Freshwater Algae and aquatic Microinvertebrates (701-1437-02L).

701-1437-03 U Aquatic Ecology II 90s hrs Wed/1 13-17 EAW -EAWAG P. Spaak, F. Altermatt,  
First half of the semester; at EAWAG, BU G 03. Thu/1 13-17 EAW -EAWAG C. T. Robinson  
Includes 3-day field trip from 29.09-01.10.2021. Fri/1 08-12 EAW -EAWAG

### ►►► Expertise in Biological Diversity

Number	Title	Type	ECTS	Hours	Lecturers		
<b>701-1437-01L</b>	<b>Practical Course Macroinvertebrates</b>	<b>W</b>	<b>2 credits</b>	<b>2P</b>			
701-1437-01 P	Bestimmungskurs aquatische Makroinvertebraten <i>The maximal participating number of students is 8 from D-USYS and 14 from D-BIOL. In case of too many students, those that simultaneously participate in the courses "701-1437-00 Aquatic Ecology I" and "701-1437-02 Bestimmungskurs Süßwasseralgen und aquatische Mikroinvertebraten" are given priority. Sign in until 26.08.2021, free places will be distributed after that. Students registering later cannot be guaranteed a place in the course. Takes place at Eawag Dübendorf (BU G 03).</i>			28s hrs	Tue/1	13-17	EAW -EAWAG J. Jokela
<b>701-1437-02L</b>	<b>Identification Course Freshwater Algae and Aquatic Microinvertebrates</b>	<b>W</b>	<b>2 credits</b>	<b>2P</b>			
701-1437-02 P	Bestimmungskurs Süßwasseralgen und aquatische Mikroinvertebraten <i>The maximal participating number of students is 8 from D-USYS and 14 from D-BIOL. In case of too many students, those that simultaneously participate in the courses "701-1437-00 Aquatic Ecology I" and "701-1437-01 Bestimmungskurs aquatischer Makroinvertebraten" are given priority. Sign in until 26.08.2021, free places will be distributed after that. Students registering later cannot be guaranteed a place in the course. Takes place at Eawag Dübendorf (BU G 03)</i>			28s hrs	Fri/1 21.10.	13-17 13-17	EAW -EAWAG J. Jokela EAW -EAWAG

### ►►► Term Paper and Seminar

Number	Title	Type	ECTS	Hours	Lecturers		
<b>701-1460-00L</b>	<b>Ecology and Evolution: Term Paper</b>	<b>O</b>	<b>5 credits</b>	<b>11A</b>			
701-1460-00 A	Ecology and Evolution: Term Paper ■ <i>The date, time and place for the kick-off meeting will be communicated later (most likely to be held in the 4th semester week).</i>			150s hrs	T. Städler, J. Alexander, S. Bonhoeffer, T. Crowther, A. Hall, J. Hille Ris Lambers, J. Jokela, J. Payne, G. Velicer, A. Widmer		

### ►► Electives

Number	Title	Type	ECTS	Hours	Lecturers		
<b>701-0290-00L</b>	<b>Seminar in Microbial Evolution and Ecology (HS)</b>	<b>Z</b>	<b>0 credits</b>	<b>2S</b>			
701-0290-00 S	Seminar in Microbial Evolution and Ecology			2 hrs	Wed	16-18	CHN C14 S. Bonhoeffer
<b>701-3001-00L</b>	<b>Environmental Systems Data Science</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>			
701-3001-00 G	Environmental Systems Data Science			2 hrs	Tue	08-10	CHN D44 CHN D46 CHN F42 CHN G22 HG D1.1 L. Pellissier, J. Payne, B. Stocker
<b>551-0205-00L</b>	<b>Challenges in Plant Sciences</b>	<b>W</b>	<b>2 credits</b>	<b>2K</b>			
551-0205-00 K	Challenges in Plant Sciences <i>**together with University of Zurich and University of Basel**</i>  <i>29 September 2021, 14.15–17.45h, ML F39 10 November 2021, 08.30–17.45h, LEE E101</i>			2 hrs	29.09. 10.11.	14-18 08-18	ML F39 LEE E101 S. C. Zeeman, G. Dow, M. Paschke, B. Pfister, further lecturers
<b>751-4504-00L</b>	<b>Plant Pathology I</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>			
751-4504-00 G	Plant Pathology I			2 hrs	Wed	14-16	LFW C5 B. McDonald

### ► Major in Environmental Systems Policy

#### ►► Theoretical Foundations for Environmental Policy

Number	Title	Type	ECTS	Hours	Lecturers		
--------	-------	------	------	-------	-----------	--	--

<b>701-1563-00L</b>	<b>Climate Policy</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
701-1563-00 G	Climate Policy			3 hrs	Mon Wed Fri	09-10 09-10 09-10	CHN C14 CAB G51 HG F5	<b>A. Patt</b> , S. Hanger-Kopp	
<b>701-1651-00L</b>	<b>Environmental Governance</b>	<b>O</b>	<b>6 credits</b>	<b>3G</b>					
701-1651-00 G	Environmental Governance			3 hrs	Tue	10-13	CHN E46	<b>E. Lieberherr</b>	
<b>851-0609-06L</b>	<b>Governing the Energy Transition</b> <i>Primarily suited for Master and PhD level.</i>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
851-0609-06 V	Governing the Energy Transition			2 hrs	Thu	16-18	NO C60	<b>T. Schmidt</b> , N. Schmid, S. Sewerin	
<b>860-0023-00L</b>	<b>International Environmental Politics</b> <i>Particularly suitable for students of D-ITET, D-USYS</i>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3	<b>T. Bernauer</b>	
<b>►► Modeling and Statistical Analysis</b>									
<b>701-1453-00L</b>	<b>Ecological Assessment and Evaluation</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
701-1453-00 G	Ecological Assessment and Evaluation			3 hrs	Mon	16-19	CHN E46	<b>F. Knaus</b>	
<b>701-1565-00L</b>	<b>Quantitative Policy Analysis and Modeling</b>	<b>O</b>	<b>6 credits</b>	<b>4G</b>					
701-1565-00 G	Quantitative Policy Analysis and Modeling			4 hrs	Wed Fri	14-16 14-16	NO C44 NO C44	<b>A. Patt</b> , R. Garrett, B. Pickering, T. Tröndle	
<b>101-0491-00L</b>	<b>Agent Based Modeling in Transportation</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
101-0491-00 G	Agent Based Modeling in Transportation			4 hrs	Mon Tue	10-12 14-16	HPK D24.2 HPK D24.2	<b>M. Balac</b>	
<b>363-0541-00L</b>	<b>Systems Dynamics and Complexity</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>					
363-0541-00 G	Systems Dynamics and Complexity <i>Lecture: Thursday, 08-10 h</i> <i>Exercises: Tuesday, 12-13 h</i> <i>The lecture takes place in classroom, online via livestreaming or zoom and recorded.</i>			3 hrs	Tue Thu	12-13 08-10	HG D1.2 HG D1.2	<b>F. Schweitzer</b>	
<b>►► Policy Engagement</b>									
<b>701-1551-00L</b>	<b>Sustainability Assessment</b> <i>Number of participants limited to 35.</i>  <i>Waiting list will be deleted October 1st, 2021.</i>  <i>No enrollment possible after October 1st, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-1551-00 G	Sustainability Assessment			2 hrs	Fri	10-12	CHN G42	<b>P. Krüttli</b> , D. Nef	
<b>701-1563-00L</b>	<b>Climate Policy</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>					
701-1563-00 G	Climate Policy			3 hrs	Mon Wed Fri	09-10 09-10 09-10	CHN C14 CAB G51 HG F5	<b>A. Patt</b> , S. Hanger-Kopp	
<b>860-0012-00L</b>	<b>Cooperation and Conflict Over International Water Resources</b> <i>Number of participants limited to 40.</i> <i>Priority for Science, Technology, and Policy MSc.</i>  <i>This is a research seminar at the Master level. PhD students are also welcome.</i>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
860-0012-00 S	Cooperation and Conflict Over International Water Resources			2 hrs	Tue	12-14	LEE D105	<b>B. Wehrli</b> , T. Bernauer, E. Calamita, T. U. Siegfried	
<b>►► Electives</b>									
<b>701-3001-00L</b>	<b>Environmental Systems Data Science</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-3001-00 G	Environmental Systems Data Science			2 hrs	Tue	08-10	CHN D44 CHN D46 CHN F42 CHN G22 HG D1.1	<b>L. Pellissier</b> , J. Payne, B. Stocker	
<b>► Major in Forest and Landscape Management</b>									
<b>►► Natural Science Foundations</b>									
<b>701-1613-01L</b>	<b>Advanced Landscape Research</b>	<b>W</b>	<b>5 credits</b>	<b>3G</b>					
701-1613-01 G	Advanced Landscape Research <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Mon	09-12	HG D3.1	<b>J. Bolliger</b> , M. Bürgi, U. Gimmi, M. Hunziker	

701-1615-00L	Advanced Forest Pathology	W	3 credits	2G					
701-1615-00 G	Advanced Forest Pathology Lehrsprache Deutsch möglich auf Wunsch der Studierenden. Lehrveranstaltung wird im HS21 zum letzten Mal angeboten.			2 hrs	Thu	16-18	CHN F42	S. Prospero	
701-1644-00L	Mountain Forest Hydrology	W	5 credits	3G					
701-1644-00 G	Mountain Forest Hydrology In addition two field trips with data collection			3 hrs	Wed	09-12	ETZ E7	J. W. Kirchner	
►► Ecosystem Management									
Number	Title	Type	ECTS	Hours				Lecturers	
701-1631-00L	Foundations of Ecosystem Management	W	5 credits	3G					
701-1631-00 G	Foundations of Ecosystem Management			3 hrs	Thu	10-13	CHN G46 HG E41 HG E33.1	J. Ghazoul, C. Garcia, J. Garcia Ulloa, A. Giger Dray	
					23.09.	10-13			
701-1635-00L	Multifunctional Forest Management	W	5 credits	2G					
701-1635-00 G	Multifunctional Forest Management In addition to the lecture, 4 full-day excursions are obligatory to attend in order to obtain the credits.			2 hrs	Thu	14-16	HG G26.1	M. Lévesque, S. Zimmermann	
	During the autumn semester 2021, the excursions will take place the following days: Saturday 9 October, Tuesday 19 October, Friday 5 November, and Saturday 20 November.								
►► Decision Making, Policy and Planning									
Number	Title	Type	ECTS	Hours				Lecturers	
701-1651-00L	Environmental Governance	W	6 credits	3G					
701-1651-00 G	Environmental Governance			3 hrs	Tue	10-13	CHN E46	E. Lieberherr	
►► Methods and Tools									
Number	Title	Type	ECTS	Hours				Lecturers	
701-1673-00L	Environmental Measurement Laboratory	W	5 credits	4G					
	Number of participants limited to 24.								
	Waiting list will be deleted September 24th, 2021.								
701-1673-00 G	Environmental Measurement Laboratory			4 hrs	Tue	14-18	CHN E46	P. U. Lehmann Grunder,	
	First lecture will be on September 21,2021.				21.09.	14-16	HCI J3	A. Carminati	
					05.10.	14-16	HIL D10.2		
701-1679-00L	Landscape Modelling of Biodiversity: From Global Changes to Conservation	W	5 credits	3G					
701-1679-00 G	Landscape Modelling of Biodiversity: From Global Changes to Conservation			3 hrs	Fri	09-12	CHN F46	L. Pellissier, N. Zimmermann	
►► Electives									
►►► Natural Science Foundations									
Number	Title	Type	ECTS	Hours				Lecturers	
701-1620-00L	Tree Genetics – Concepts and Applications	W	3 credits	2G					
701-1620-00 G	Tree Genetics – Concepts and Applications			2 hrs	Tue	08-10	CHN F46	A. Rudow, P. Brang, F. Gugerli, C. Sperisen	
	There will be 2 full day excursions on weekends additionally to the lecture (Tuesdays 8 to 10).								
751-5125-00L	Stable Isotope Ecology of Terrestrial Ecosystems	W	2 credits	2G					
	Number of participants limited to 20.								
751-5125-00 G	Stable Isotope Ecology of Terrestrial Ecosystems			2 hrs	14.01.-	08-18	LFW B2	R. A. Werner, N. Buchmann, A. Gessler, M. Lehmann	
	This block course takes place on 14 January 2022 to 21 January 2022.				21.01.				
►►► Ecosystem Management									
Number	Title	Type	ECTS	Hours				Lecturers	
701-1453-00L	Ecological Assessment and Evaluation	W	3 credits	3G					
701-1453-00 G	Ecological Assessment and Evaluation			3 hrs	Mon	16-19	CHN E46	F. Knaus	
701-1645-00L	Forest Operations	W	3 credits	2G					
701-1645-00 G	Forest Operations			2 hrs	Mon	14-16	ML H34.3	H. Griess, J. Schweier	
►►► Decision Making, Policy and Planning									
Number	Title	Type	ECTS	Hours				Lecturers	
103-0468-00L	Participatory Modeling in Integrated Landscape Development	W	3 credits	2G					

103-0468-00 G	Participatory Modeling in Integrated Landscape Development <i>Please consult the lecture's website for detailed information about rooms and program.</i> <a href="https://irl.ethz.ch/education/courses/msc/participatory_modelling.html">https://irl.ethz.ch/education/courses/msc/participatory_modelling.html</a>	2 hrs	Thu	14-16	HIL H35.1 HIL H40.4 HIL E10.1 n/a n/a	<b>E. Celio, N. Salliou</b>
	Room information of dates 07.10., 14.10., 11.11. and 09.12.2021 will be published later on.			07.10. 14-16 14.10. 14-16 11.11. 14-16 09.12. 14-16		

## ►►► Methods and Tools

Number	Title	Type	ECTS	Hours			Lecturers
<b>701-1316-00L</b>	<b>Physical Transport Processes in the Natural Environment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>			
701-1316-00 G	Physical Transport Processes in the Natural Environment			2 hrs	Mon	16-18	<b>J. W. Kirchner</b>
<b>701-1677-00L</b>	<b>Quantitative Vegetation Dynamics: Models from Tree to Globe</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>			
701-1677-00 G	Quantitative Vegetation Dynamics: Models from Tree to Globe <i>Online event: Will primarily take place online (Zoom). Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Fri	14-17	<b>H. Lischke, U. Hiltner, B. Rohner</b>
<b>701-1682-00L</b>	<b>Dendroecology</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>			
701-1682-00 G	Dendroecology <i>Zusätzlich zur Lehrveranstaltung wird eine ganztägige Exkursion angeboten</i>			3 hrs	Fri	12-14	<b>C. Bigler, K. Treydte, G. von Arx</b>
<b>701-1776-00L</b>	<b>Geographic Data Processing with Python and ArcGIS</b> <i>Number of participants limited to 30.</i>	<b>W</b>	<b>1 credit</b>	<b>2U</b>			
	<i>Waiting list will be deleted September 14th, 2021.</i>						
701-1776-00 U	Geographic Data Processing with Python and ArcGIS <i>3-day block course.</i>			30s hrs	15.09. 09-17 16.09. 09-17 17.09. 09-17	NO D39 NO D39 NO D39	<b>A. Baltensweiler</b>
<b>701-3001-00L</b>	<b>Environmental Systems Data Science</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>			
701-3001-00 G	Environmental Systems Data Science			2 hrs	Tue	08-10	<b>L. Pellissier, J. Payne, B. Stocker</b>
					21.09.	08-10	CHN D44 CHN D46 CHN F42 CHN G22 HG D1.1
<b>401-0627-00L</b>	<b>Smoothing and Nonparametric Regression with Examples</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>			
401-0627-00 G	Smoothing and Nonparametric Regression with Examples <i>Online course: This course takes place online. The reserved room is meant for those students who want to follow the course from Zentrum campus.</i> <i>Online-Veranstaltung: Diese Lehrveranstaltung findet online statt. Der reservierte Raum bleibt für die Studierenden auf dem Campus Zentrum bestehen, um die Lehrveranstaltung dort zu hören.</i>			2 hrs	Fri	14-16	<b>S. Beran-Ghosh</b>

## ►► Colloquium

Number	Title	Type	ECTS	Hours			Lecturers
<b>701-1691-00L</b>	<b>Colloquium Forest and Landscape Management</b>	<b>Z</b>	<b>0 credits</b>	<b>1.5K</b>			
701-1691-00 K	Kolloquium Wald- und Landschaftsmanagement <i>Programm: <a href="http://www.ites.ethz.ch/events/mokoll.html">http://www.ites.ethz.ch/events/mokoll.html</a></i>			1.5 hrs	10.01. 13-18 17.01. 13-18 24.01. 13-18 31.01. 13-18	CHN C14 CHN C14 CHN C14 CHN C14	<b>H. Bugmann</b>

## ► Major in Human Health, Nutrition and Environment

### ►► Public Health

*The module Public Health is compulsory for all students in the major Human Health, Nutrition and Environment.*

Number	Title	Type	ECTS	Hours			Lecturers
<b>401-0629-00L</b>	<b>Applied Biostatistics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>			
401-0629-00 G	Applied Biostatistics <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			3 hrs	Tue	13-16	<b>M. Tanadini</b>
<b>752-6105-00L</b>	<b>Epidemiology and Prevention</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
752-6105-00 V	Epidemiology and Prevention			2 hrs	Wed	12-14	<b>M. Puhan, R. Heusser</b>
<b>752-6151-00L</b>	<b>Public Health Concepts</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>			
752-6151-00 V	Public Health Concepts			2 hrs	Mon	14-16	<b>R. Heusser</b>
					27.09.	14-16	HG D1.1 CHN G42

### ►► Nutrition and Health

Number	Title	Type	ECTS	Hours			Lecturers
<b>752-2122-00L</b>	<b>Food and Consumer Behaviour</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>			



752-2122-00 V	Food and Consumer Behaviour <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>	W	3 credits	2G	2 hrs	Mon	10-12	LFW B1	<b>M. Siegrist, C. Hartmann</b>
752-5103-00L	<b>Functional Microorganisms in Foods</b>	W	3 credits	2G	2 hrs	Wed	14-16	HG D7.1	<b>C. Lacroix, A. Geirnaert, A. Greppi</b>
752-5103-00 G	Functional Microorganisms in Foods ■ <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>								
752-6101-00L	<b>Dietary Etiologies of Chronic Disease</b>	W	3 credits	2V	2 hrs	Thu	08-10	CAB G11	<b>M. B. Zimmermann</b>
752-6101-00 V	Dietary Etiologies of Chronic Disease								
<b>►► Environment and Health</b>									
<b>701-1341-00L</b>	<b>Water Resources and Drinking Water</b>	W	3 credits	2G	2 hrs	Fri	08-10	CAB G11	<b>S. Hug, M. Berg, F. Hammes, U. von Gunten</b>
701-1341-00 G	Water Resources and Drinking Water <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>								
<b>376-1353-00L</b>	<b>Nanostructured Materials Safety</b>	W	2 credits	1V	1 hrs	Fri/1	12-14	CHN F46	<b>P. Wick</b>
376-1353-00 V	Nanostructured Materials Safety								
<b>►► Infectious Diseases</b>									
<b>701-0263-01L</b>	<b>Seminar in Evolutionary Ecology of Infectious Diseases</b>	W	3 credits	2G	2 hrs	Tue	16-18	CHN F42	<b>R. R. Regös, S. Bonhoeffer</b>
701-0263-01 G	Seminar in Evolutionary Ecology of Infectious Diseases								
<b>701-1471-00L</b>	<b>Ecological Parasitology</b> <i>Number of participants limited to 20. A minimum of 6 students is required that the course will take place.</i>	W	3 credits	1V+1P					
	<i>Waiting list will be deleted on October 1st, 2021.</i>								
701-1471-00 V	Ecological Parasitology ■ <i>The lecture takes place irregularly.</i>			14s hrs	Tue	08-10	CHN G46	<b>J. Jokela, C. Vorburger</b>	
701-1471-00 P	Ecological Parasitology ■ <i>Daten der Veranstaltung: 05.10.; 19.10.; 09.11 Zeit: 8:15 - 12:00 Ort der Veranstaltung: EAWAG Dübendorf</i>			12s hrs	05.10. 19.10. 09.11.	08-12 08-12 08-12	EAW -EAWAG EAW -EAWAG EAW -EAWAG	<b>J. Jokela, C. Vorburger</b>	
<b>701-1703-00L</b>	<b>Evolutionary Medicine for Infectious Diseases</b> <i>Number of participants limited to 35.</i>	W	3 credits	2G					
	<i>Waiting list will be deleted October 3rd, 2021.</i>								
701-1703-00 G	Evolutionary Medicine for Infectious Diseases			2 hrs	Fri	10-12	HG E41	<b>A. Hall</b>	
<b>551-0223-00L</b>	<b>Immunology III</b>	W	4 credits	2V	2 hrs	Mon	10-12	HCI H8.1	<b>M. Kopf, S. B. Freigang, J. Kisielow, S. R. Leibundgut, A. Oxenius, C. Schneider, R. Spörri, L. Tortola, E. Wetter Slack</b>
551-0223-00 V	Immunology III								
<b>752-4009-00L</b>	<b>Molecular Biology of Foodborne Pathogens</b>	W	3 credits	2V	2 hrs	Thu	10-12	HG E1.2	<b>M. Loessner, M. Schmelcher, M. Schuppler, E. Wetter Slack</b>
752-4009-00 V	Molecular Biology of Foodborne Pathogens								

## ►► Term Paper and Seminar

*The compulsory course 701-1701-00L Human Health, Nutrition and Environment: Term Paper is offered in the autumn semester only.*

Number	Title	Type	ECTS	Hours	Lecturers				
<b>701-1701-00L</b>	<b>Human Health, Nutrition and Environment: Term Paper</b> <i>Only for students of the Major Human Health, Nutrition and Environment.</i>	O	6 credits	13A					
701-1701-00 A	Human Health, Nutrition and Environment: Term Paper ■ <i>Permission from lecturers required for all students The introduction of the term paper course takes place on 30th Sept 2021 from 16:15 to 18:00 h. An additional compulsory input lecture takes place on 25th Nov 2021 from 16:15 to 18:00 h. Dates for oral presentation are 17th and 18th Feb 2022.</i>			180s hrs	<b>J. Nuessli Guth, T. Julian, K. McNeill, M. B. Zimmermann</b>				
	<i>More details and locations are announced separately.</i>								

## ►► Electives

Number	Title	Type	ECTS	Hours	Lecturers				
--------	-------	------	------	-------	-----------	--	--	--	--

<b>701-3001-00L</b>	<b>Environmental Systems Data Science</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-3001-00 G	Environmental Systems Data Science			2 hrs	Tue	08-10	CHN D44 CHN D46 CHN F42 CHN G22 HG D1.1	<b>L. Pellissier</b> , J. Payne, B. Stocker	
					21.09.	08-10			
<b>► Minors</b>									
<b>►► Minor in Sustainable Energy Use</b>									
<b>701-0967-00L</b>	<b>Project Development in Renewable Energies</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
	<i>Number of participants limited to 30. Waiting list will be deleted October 6th, 2021.</i>								
701-0967-00 G	Projektentwicklung im Bereich erneuerbarer Energien			2 hrs	Thu/2w	14-18	CHN F46	<b>R. Rechsteiner</b> , A. Appenzeller	
<b>701-1346-00L</b>	<b>Carbon Mitigation</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>Number of participants limited to 90. Priority is given to the target groups: Bachelor and Master Environmental Sciences and PHD Environmental Sciences until September 21st, 2021. Waiting list will be deleted October 1st, 2021.</i>								
701-1346-00 G	Carbon Mitigation			2 hrs	Mon	10-12	CHN C14	<b>N. Gruber</b>	
<b>052-0609-00L</b>	<b>Energy- and Climate Systems I</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
052-0609-00 G	Energie- und Klimasysteme I <i>Keine Lehrveranstaltung am 29.10. (Seminarwoche) sowie am 17/24.12. (vor Schlussabgaben).</i>			2 hrs	Fri	10-12	HIL E3	<b>A. Schlüter</b>	
<b>227-0731-00L</b>	<b>Power Market I - Portfolio and Risk Management</b>	<b>W</b>	<b>6 credits</b>	<b>4G</b>					
227-0731-00 G	Power Market I - Portfolio and Risk Management			4 hrs	Tue	08-12	HG D7.1	<b>D. Reichelt</b> , G. A. Koeppel	
<b>►► Minor in Global Change and Sustainability</b>									
<i>This minor will only be offered in the academic year 21/22. As of the academic year 22/23, the minor can no longer be chosen. The course units offered in the minor can still be taken as electives.</i>									
<b>701-0019-00L</b>	<b>Readings in Environmental Thinking</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
701-0019-00 S	Readings in Environmental Thinking			2 hrs	Fri	16-18	CHN G42 CHN G46	<b>J. Ghazoul</b>	
<b>701-1551-00L</b>	<b>Sustainability Assessment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>Number of participants limited to 35.  Waiting list will be deleted October 1st, 2021.  No enrollment possible after October 1st, 2021.</i>								
701-1551-00 G	Sustainability Assessment			2 hrs	Fri	10-12	CHN G42	<b>P. Krüttli</b> , D. Nef	
<b>551-0209-00L</b>	<b>Sustainable Plant Systems (Seminar)</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>					
551-0209-00 S	Sustainable Plant Systems (Seminar) <i>**together with University of Zurich and University of Basel** Presence days: 7. october &amp; 3. december 2021 14:00 - 18:00</i>			2 hrs	07.10.	14-18	LFW B2	<b>M. Paschke</b> , F. Liebisch, further lecturers	
<b>860-0012-00L</b>	<b>Cooperation and Conflict Over International Water Resources</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
	<i>Number of participants limited to 40. Priority for Science, Technology, and Policy MSc.  This is a research seminar at the Master level. PhD students are also welcome.</i>								
860-0012-00 S	Cooperation and Conflict Over International Water Resources			2 hrs	Tue	12-14	LEE D105	<b>B. Wehrli</b> , T. Bernauer, E. Calamita, T. U. Siegfried	
<b>860-0023-00L</b>	<b>International Environmental Politics</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
	<i>Particularly suitable for students of D-ITET, D-USYS</i>								
860-0023-00 V	International Environmental Politics			2 hrs	Mon	16-18	HG F3	<b>T. Bernauer</b>	
<b>►► Minor in Transdisciplinarity for Sustainable Development</b>									
<i>This minor will only be offered in the academic year 21/22. As of the academic year 22/23, the minor can no longer be chosen. The course units offered in the minor can still be taken as electives.</i>									
<b>701-1551-00L</b>	<b>Sustainability Assessment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
	<i>Number of participants limited to 35.  Waiting list will be deleted October 1st,</i>								

2021.

No enrollment possible after October 1st, 2021.

701-1551-00 G	Sustainability Assessment	2 hrs	Fri	10-12	CHN G42	P. Krüttli, D. Nef
---------------	---------------------------	-------	-----	-------	---------	--------------------

## ►► Minor in Life Cycle Assessment

This minor will only be offered in the academic year 21/22. As of the academic year 22/23, the minor can no longer be chosen. The course units offered in the minor can still be taken as electives.

Number	Title	Type	ECTS	Hours				Lecturers
<b>101-0577-00L</b>	<b>An Introduction to Sustainable Development in the Built Environment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0577-00 G	An Introduction to Sustainable Development in the Built Environment			2 hrs	Tue	16-18	HIL E4	<b>G. Habert</b> , D. Kaushal
<b>101-0608-00L</b>	<b>Design-Integrated Life Cycle Assessment</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0608-00 G	Design-Integrated Life Cycle Assessment <i>Former title: Building Materials and Sustainability</i>			2 hrs	Tue	14-16	HPT C103	<b>G. Habert</b>
<b>102-0317-00L</b>	<b>Advanced Environmental Assessments</b> <i>Master students in Environmental Engineering choosing module Ecological Systems Design are not allowed to enrol 102-0317-00 Advanced Environmental Assessments (3KP) as already included in 102-0307-01 Advanced Environmental, Social and Economic Assessments (5KP).</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
102-0317-00 G	Advanced Environmental Assessments			2 hrs	Thu	10-12	HIL E9	<b>S. Pfister</b> , R. Frischknecht
<b>102-0317-03L</b>	<b>Advanced Environmental Assessment (Computer Lab I)</b>	<b>W</b>	<b>1 credit</b>	<b>1U</b>				
102-0317-03 U	Advanced Environmental Assessment (Computer Lab I) <i>Takes place on Tuesday 8-9.45 at ETH Hönggerberg (7 times; starting in the second week of the semester; exact dates to be confirmed).</i>			1 hrs				<b>S. Pfister</b>
<b>102-0317-04L</b>	<b>Advanced Environmental Assessment (Computer Lab II)</b> <i>Not for master students in Environmental Engineering choosing module Ecological System Design as already included in Environment and Computer Laboratory I (Year Course): 102-0527-00 and 102-0528-00.</i>	<b>W</b>	<b>2 credits</b>	<b>2P</b>				
102-0317-04 P	Advanced Environmental Assessment (Computer Lab II) ■ <i>Takes place on Tuesday 8-9.45 at ETH Hönggerberg (8 times; starting in the second week of the semester; exact dates to be confirmed)</i>			2 hrs				<b>S. Pfister</b>

## ►► Minor in Biogeochemistry

This minor will only be offered in the academic year 21/22. As of the academic year 22/23, the minor can no longer be chosen. The course units offered in the minor can still be taken as electives.

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-1313-00L</b>	<b>Isotopes and Biomarkers in Biogeochemistry</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-1313-00 G	Isotopes and Biomarkers in Biogeochemistry			2 hrs	Tue	14-16	CHN F42	<b>C. Schubert</b> , R. Kipfer
<b>701-1315-00L</b>	<b>Biogeochemistry of Trace Elements</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-1315-00 G	Biogeochemistry of Trace Elements			2 hrs	Tue	10-12	LFV E41	<b>A. Voegelin</b> , S. Bouchet, L. Winkel
<b>701-1341-00L</b>	<b>Water Resources and Drinking Water</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-1341-00 G	Water Resources and Drinking Water <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Fri	08-10	CAB G11	<b>S. Hug</b> , M. Berg, F. Hammes, U. von Gunten
<b>701-1346-00L</b>	<b>Carbon Mitigation</b> <i>Number of participants limited to 90. Priority is given to the target groups: Bachelor and Master Environmental Sciences and PHD Environmental Sciences until September 21st, 2021. Waiting list will be deleted October 1st, 2021.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
701-1346-00 G	Carbon Mitigation			2 hrs	Mon	10-12	CHN C14	<b>N. Gruber</b>

## ►► Minor in Physical Glaciology

Number	Title	Type	ECTS	Hours				Lecturers
<b>101-0289-00L</b>	<b>Applied Glaciology</b>	<b>W</b>	<b>4 credits</b>	<b>2G</b>				
101-0289-00 G	Applied Glaciology			2 hrs	Wed	08-10	HIL E8	<b>D. Farinotti</b> , A. Bauder, M. Werder
<b>651-1581-00L</b>	<b>Seminar in Glaciology</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>				

651-1581-00 S	Seminar in Glaciology <i>Format and topics will be introduced in the first session on 22 September 2021. Attendance is required.</i>		2 hrs	Wed	16-18	HPK D3	A. Bauder
<b>651-4077-00L</b>	<b>Quantification and Modeling of the Cryosphere: Dynamic Processes (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO815</i>	<b>W</b>	<b>3 credits</b>	<b>1V</b>			
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>						
651-4077-00 V	Quantification and Modeling of the Cryosphere: Dynamic Processes (University of Zurich) <b>**Course at University of Zurich**</b>		1 hrs				University lecturers
<b>651-4101-00L</b>	<b>Physics of Glaciers</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>			
651-4101-00 G	Physics of Glaciers		3 hrs	Mon	12-15	ML E12	M. Lüthi, F. T. Walter, M. Werder

## ►► Minor in Catchment Management and Natural Hazards

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-0565-00L</b>	<b>Fundamentals of Natural Hazards Management</b>	<b>W</b>	<b>3 credits</b>	<b>3G</b>				
701-0565-00 G	Grundzüge des Naturgefahrenmanagements <i>Does not take place this semester. Zusätzlich zwei obligatorische, ganztägige Exkursionen.</i>			3 hrs				V. Griess, B. Krummenacher, S. Löw
<b>101-1250-00L</b>	<b>Management of Hillslope and Channel Processes</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
101-1250-00 V	Wildbach- und Hangverbau			2 hrs	Tue	14-16	HIL E8	D. Rickenmann
<b>102-0293-00L</b>	<b>Hydrology</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
102-0293-00 G	Hydrology <i>Online event: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Tue	14-16	HIL E4	P. Burlando
<b>651-3525-00L</b>	<b>Introduction to Engineering Geology</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
651-3525-00 V	Ingenieurgeologie			2 hrs	Mon	14-16	NO C6	S. Löw, M. Ziegler
651-3525-00 U	Ingenieurgeologie <i>Groups are selected in myStudies. Die Übungen finden in zwei Gruppen statt, jeweils eine Stunde (12-13 oder 13-14).</i>			1 hrs	Tue	12-13 13-14	NO D11 NO D11	S. Löw, L. de Palézieux dit Falconnet, M. Ziegler
<b>651-4088-03L</b>	<b>Physical Geography III (Geomorphology and Glaciology) (University of Zurich)</b> <i>No enrolment to this course at ETH Zurich. Book the corresponding module directly at UZH as an incoming student. UZH Module Code: GEO231</i>	<b>W</b>	<b>5 credits</b>	<b>1V+1U</b>				
	<i>Mind the enrolment deadlines at UZH: <a href="https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html">https://www.uzh.ch/cmsssl/en/studies/application/deadlines.html</a></i>							
651-4088-03 V	Physische Geographie III: Geomorphologie und Glaziologie (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			14s hrs				University lecturers
651-4088-03 U	Physische Geographie III: Übungen zu Physische Geographie in Gruppen (Universität Zürich) <b>**Kurs an der Universität Zürich**</b>			14s hrs				University lecturers

## ►► Minor in Forest Engineering and Wood Products

*To successfully complete this minor, KPs must be earned for the two required courses:*

- 701-1645-00 Forest Operations (autumn semester) and
- 701-1544-00 Forest Access and Transportation (spring semester)

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-1645-00L</b>	<b>Forest Operations</b>	<b>O</b>	<b>3 credits</b>	<b>2G</b>				
701-1645-00 G	Forest Operations			2 hrs	Mon	14-16	ML H34.3	H. Griess, J. Schweier
<b>101-0637-10L</b>	<b>Wood Structure and Function</b> <i>Number of participants limited to 15.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0637-10 G	Wood Structure and Function			2 hrs	Wed	16-18	HIT J52	I. Burgert, G. von Arx
<b>101-0637-20L</b>	<b>Fundamentals of Wood Elaboration and Woodmachining</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
101-0637-20 G	Holzbearbeitung und -verarbeitung			2 hrs	Wed	14-16	HIT J52	I. Burgert, M. Schubert

## ►► Minor in Soil-Plant Relations and Land Use

*This minor will only be offered in the academic year 21/22. As of the academic year 22/23, the minor can no longer be chosen. The course units offered in the minor can still be taken as electives.*

Number	Title	Type	ECTS	Hours				Lecturers
--------	-------	------	------	-------	--	--	--	-----------

<b>103-0317-00L</b>	<b>Introduction to Spatial Development and W Transformation</b> <i>Only for master students, otherwise a special permission by the lecturer is required.</i>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
103-0317-00 G	Introduction to Spatial Development and Transformation			2 hrs	Tue	10-12	HIL E6	<b>M. Nollert, D. Kaufmann</b>	
<b>751-3405-00L</b>	<b>Chemical Nature of Nutrients and their Availability to Plants: The Case of Phosphorus</b> <i>Number of participants limited to 15. Priority will be given to students in Agricultural Sciences</i>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
751-3405-00 G	Chemical Nature of Nutrients and their Availability to Plants: The Case of Phosphorus <i>The lectures will spread over 13 Friday mornings in the autumn semester. The lecture will be organized in Eschikon, in the Group of Plant Nutrition at the Experimental station Eschikon, 8315 Eschikon-Lindau. The location of the experimental station Eschikon is given at <a href="http://www.ias.ethz.ch/researchstation/eschikon">http://www.ias.ethz.ch/researchstation/eschikon</a>.</i>			56s hrs				<b>E. Frossard, L. P. Schönholzer, M. Wiggerhauser</b>	
<b>751-5101-00L</b>	<b>Biogeochemistry and Sustainable Management</b>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-5101-00 G	Biogeochemistry and Sustainable Management <i>Does not take place this semester.</i>			2 hrs				<b>W. Eugster, V. Klaus</b>	
<b>701-1695-00L</b>	<b>Soil Science Seminar</b>	<b>Z</b>	<b>0 credits</b>	<b>1S</b>					
701-1695-00 S	Soil Science Seminar			1 hrs	Tue	17-19	CHN P12	<b>R. Kretzschmar, A. Carminati, S. Dötterl, E. Frossard, M. Hartmann</b>	
<b>701-1343-00L</b>	<b>Soil-Plant Water Relations</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
701-1343-00 V	Soil-Plant Water Relations			2 hrs	Fri	10-12	ML H41.1	<b>A. Carminati</b>	
<b>751-5201-10L</b>	<b>Tropical Cropping Systems, Soils and Livelihoods</b> <i>This course has been restructured due to Covid-19 restrictions, part I (2 CP) takes place in Autumn 2021, part II (3 CP) in Spring 2022, with an excursion/fieldwork. For more information, please contact the lecturer: <a href="mailto:kenza.benabderrazik@usys.ethz.ch">kenza.benabderrazik@usys.ethz.ch</a></i>	<b>W</b>	<b>2 credits</b>	<b>2G</b>					
751-5201-10 G	Tropical Cropping Systems, Soils and Livelihoods <i>This has been restructured due to Covid-19 restrictions, the excursion/field work will take place in spring 2022. For more information, please contact the lecturer: <a href="mailto:kenza.benabderrazik@usys.ethz.ch">kenza.benabderrazik@usys.ethz.ch</a></i>			2 hrs	Thu 23.09.	08-10 08-10	CHN G22 CHN E42	<b>J. Six, K. Benabderrazik</b>	

## ►► Minor in Agricultural Plant Production and Environment

Number	Title	Type	ECTS	Hours				Lecturers
<b>701-1343-00L</b>	<b>Soil-Plant Water Relations</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>				
701-1343-00 V	Soil-Plant Water Relations			2 hrs	Fri	10-12	ML H41.1	<b>A. Carminati</b>
<b>751-3700-00L</b>	<b>Plant Ecophysiology</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
751-3700-00 V	Ökophysiologie <i>Teile der Lehrveranstaltung wird in Englisch gehalten.</i>			2 hrs	Thu	16-18	LFW C5	<b>M. Gharun, M. Lehmann, A. Walter</b>
<b>751-4003-01L</b>	<b>Current Topics in Grassland Sciences (HS)</b>	<b>W</b>	<b>2 credits</b>	<b>2S</b>				
751-4003-01 S	Current Topics in Grassland Sciences <i>Online lecture: This lecture will take place online. Reserved rooms will remain reserved on campus for students to follow the course from there.</i>			2 hrs	Mon	16-18	LFW C1	<b>A. K. Gilgen</b>
<b>751-4104-00L</b>	<b>Alternative Crops</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
751-4104-00 V	Alternative Crops			2 hrs	Wed	16-18	LFW C5	<b>A. Walter, K. Berger Büter</b>
<b>751-4704-00L</b>	<b>Weed Science</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
751-4704-00 G	Weed Science			2 hrs	Thu	14-16	LFW B3	<b>B. Streit, U. J. Haas</b>
<b>751-5003-00L</b>	<b>Sustainable Agroecosystems II</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>				
751-5003-00 V	Sustainable Agroecosystems II			2 hrs	Thu/2w	14-18	LFW B1	<b>K. Benabderrazik, M. Hartmann</b>

## ►► Minor in Environmental, Resource and Food Economics

Number	Title	Type	ECTS	Hours				Lecturers
<b>363-0537-00L</b>	<b>Resource and Environmental Economics</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
363-0537-00 G	Resource and Environmental Economics <i>The lecture takes place in classroom, online via livestreaming and recorded.</i>			2 hrs	Wed	10-12	HG G3	<b>L. Bretschger</b>
<b>751-0423-00L</b>	<b>Risk Analysis and Risk Management in Agriculture</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>				
751-0423-00 G	Risk Analysis and Risk Management in Agriculture			2 hrs	Thu	14-16	ML J34.3	<b>R. Finger</b>

<b>751-0903-00L</b>	<b>Microeconomics of the Agriculture and Food Sector</b>	<b>W</b>	<b>3 credits</b>	<b>2V</b>					
751-0903-00 V	Mikroökonomie des Agrar- und Lebensmittelsektors			2 hrs	Thu	08-10	LFW C1	<b>S. Wimmer</b>	
<b>751-1311-00L</b>	<b>Introduction to Agricultural Management</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
751-1311-00 V	Einführung in das Agrarmanagement			2 hrs	Wed	08-10	CAB G61	<b>R. Finger</b>	
<b>751-1573-00L</b>	<b>Dynamic Simulation in Agricultural and Regional Economics</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
751-1573-00 V	Dynamic Simulation in Agricultural and Regional Economics			2 hrs	Fri/1	08-12	HG D3.1	<b>B. Kopainsky</b>	
<b>751-2103-00L</b>	<b>Socioeconomics of Agriculture</b>	<b>W</b>	<b>2 credits</b>	<b>2V</b>					
751-2103-00 V	Socioeconomics of Agriculture			2 hrs	Tue	08-10	LFW B3	<b>S. Mann</b>	
<b>751-2903-00L</b>	<b>Evaluation of Agricultural Policies</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
751-2903-00 G	Evaluation of Agricultural Policies			2 hrs	Thu	16-18	ML J34.3	<b>R. Huber, R. Finger, C. Schader</b>	

## ► Electives

### ►► Other

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-0019-00L</b>	<b>Readings in Environmental Thinking</b>	<b>W</b>	<b>3 credits</b>	<b>2S</b>					
701-0019-00 S	Readings in Environmental Thinking			2 hrs	Fri	16-18	CHN G42 CHN G46	<b>J. Ghazoul</b>	
<b>701-3001-00L</b>	<b>Environmental Systems Data Science</b>	<b>W</b>	<b>3 credits</b>	<b>2G</b>					
701-3001-00 G	Environmental Systems Data Science			2 hrs	Tue	08-10	CHN D44 CHN D46 CHN F42 CHN G22 HG D1.1	<b>L. Pellissier, J. Payne, B. Stocker</b>	
						21.09.	08-10		
<b>363-1065-00L</b>	<b>Design Thinking: Human-Centred Solutions to Real World Challenges</b>	<b>W</b>	<b>5 credits</b>	<b>5G</b>					
363-1065-00 G	Design Thinking: Human-Centred Solutions to Real World Challenges <i>Does not take place this semester. From FS22 in the spring semester.</i>			5 hrs				<b>S. Brusoni</b>	

## ►► Course Catalogue of ETH Zurich

*Course Catalogue of ETH Zurich*

## ► Professional Internship

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1001-00L</b>	<b>Professional Internship</b> <i>Only for Environmental Sciences MSc. Completion and enrollment for the course «Professional Internship» is only possible after admission requirements and all additional requirements are fulfilled.</i>	<b>O</b>	<b>30 credits</b>						
	<i>Registration and recognition of professional internship via <a href="https://www.lehrbetrieb.ethz.ch/praxis">https://www.lehrbetrieb.ethz.ch/praxis</a> No registration in myStudies required. For more information: <a href="http://www.usys.ethz.ch/internship-envsc">www.usys.ethz.ch/internship-envsc</a></i>								
701-1001-00 P	Berufspraxis <i>Permission from lecturers required for all students</i>							<b>A. Funk</b>	

## ► Master's Thesis

Number	Title	Type	ECTS	Hours					Lecturers
<b>701-1002-00L</b>	<b>Master's Thesis</b> <i>Only students who fulfill the following criteria are allowed to begin with their Master's thesis: a) The signed request for the Bachelor's Degree Certificate has been submitted or processed. b) At least 32 CP of coursework related to the major have been acquired. c) All additional requirements (as stated in the admissions decision), including any assessment repetitions, are fulfilled. Additional information is posted on the following webpage: <a href="https://www.usys.ethz.ch/en/studies/environtal-sciences/master/thesis.html">https://www.usys.ethz.ch/en/studies/environtal-sciences/master/thesis.html</a></i>	<b>O</b>	<b>30 credits</b>	<b>64D</b>					
701-1002-00 D	Master's Thesis ■ <i>Permission from lecturers required for all students</i>			900s hrs	by appt.			<b>Lecturers</b>	

## ► Course Units for Additional Admission Requirements

*The courses below are only available for Master students with additional admission requirements.*

Number	Title	Type	ECTS	Hours	Lecturers
351-1158-AAL	<b>Principles of Economics</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	
351-1158-AA R	Principles of Economics <i>Self-study course. No presence required.</i>			90s hrs	<b>U. Renold</b> , T. Bolli, P. McDonald, M. E. Oswald- Egg, F. Pusterla
406-0062-AAL	<b>Physics I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	5 credits	11R	
406-0062-AA R	Physics I <i>Self-study course. No presence required.</i>			150s hrs	<b>A. Vaterlaus</b>
406-0063-AAL	<b>Physics II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	5 credits	11R	
406-0063-AA R	Physics II <i>Self-study course. No presence required.</i>			150s hrs	<b>A. Vaterlaus</b>
406-0064-AAL	<b>Physics I and II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	10 credits	21R	
406-0064-AA R	Physics I and II <i>Self-study course. No presence required.</i>			300s hrs	<b>A. Vaterlaus</b>
406-0251-AAL	<b>Mathematics I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	6 credits	13R	
406-0251-AA R	Mathematics I <i>Self-study course. No presence required.</i>			180s hrs	<b>F. Da Lio</b>
406-0252-AAL	<b>Mathematics II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	7 credits	15R	
406-0252-AA R	Mathematics II <i>Self-study course. No presence required.</i>			210s hrs	<b>L. Halbeisen</b>
406-0253-AAL	<b>Mathematics I &amp; II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	13 credits	28R	
406-0253-AA R	Mathematics I & II <i>Self-study course. No presence required.</i>			390s hrs	<b>L. Halbeisen</b>
406-0603-AAL	<b>Stochastics (Probability and Statistics)</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	4 credits	9R	
406-0603-AA R	Stochastics (Probability and Statistics) <i>Self-study course. No presence required.</i>			120s hrs	<b>M. Kalisch</b>

529-2001-AAL	<b>Chemistry I and II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	9 credits	19R	
529-2001-AA R	Chemistry I and II Self-study course. No presence required.			270s hrs	J. Cvengros
529-2002-AAL	<b>Chemistry II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	5 credits	11R	
529-2002-AA R	Chemistry II Self-study course. No presence required.			150s hrs	H. Grützmacher, J. Cvengros
551-0001-AAL	<b>General Biology I</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	
551-0001-AA R	General Biology I Self-study course. No presence required. Please contact Prof. Uwe Sauer for further information.			90s hrs	U. Sauer, O. Y. Martin, A. Widmer
551-0003-AAL	<b>General Biology I+II</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	7 credits	13R	
551-0003-AA R	General Biology I+II Self-study course. No presence required. Please contact Prof. Uwe Sauer for further information.			180s hrs	U. Sauer, K. Bomblies, O. Y. Martin, A. Widmer
701-0023-AAL	<b>Atmosphere</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	
701-0023-AA R	Atmosphere Self-study course. No presence required. Please contact Dr. Erich Fischer for further information.			90s hrs	E. M. Fischer, T. Peter
701-0071-AAL	<b>Mathematics III: Systems Analysis</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	4 credits	9R	
701-0071-AA R	Mathematics III: Systems Analysis Self-study course. No presence required. Please contact Prof. Reto Knutti for further information.			120s hrs	R. Knutti, H. Wernli
701-0106-AAL	<b>Mathematics V: Applied Deepening of Mathematics I - III</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	E-	3 credits	6R	
701-0106-AA R	Mathematics V: Applied Deepening of Mathematics I - III Self-study course. No presence required. Please contact Dr. Michael Sprenger for further information.			90s hrs	M. A. Sprenger
701-0243-AAL	<b>Biology III: Essentials of Ecology</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students)</i>	E-	3 credits	6R	



<b>CANNOT enrol for this course unit.</b>				
701-0243-AA R	Biology III: Essentials of Ecology <i>Self-study course. No presence required. Please contact Prof. Janneke Hille Ris Lambers for further information.</i>		90s hrs	J. Hille Ris Lambers
<b>701-0401-AAL</b>	<b>Hydrosphere</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>
701-0401-AA R	Hydrosphere <i>Self-study course. No presence required. Please contact Prof. Rolf Kipfer or Prof. Martin Schroth for further information.</i>		90s hrs	R. Kipfer, M. H. Schroth
<b>701-0473-AAL</b>	<b>Weather Systems</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>
701-0473-AA R	Weather Systems <i>Self-study course. No presence required. Please contact Dr. Michael Sprenger for further information.</i>		90s hrs	M. A. Sprenger, F. Scholder-Aemisegger
<b>701-0475-AAL</b>	<b>Atmospheric Physics</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>
701-0475-AA R	Atmospheric Physics <i>Self-study course. No presence required. Please contact Prof. Ulrike Lohmann for further information.</i>		90s hrs	U. Lohmann
<b>701-0501-AAL</b>	<b>Pedosphere</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>
701-0501-AA R	Pedosphere <i>Self-study course. No presence required. Please contact Prof. Ruben Kretzschmar for further information.</i>		90s hrs	R. Kretzschmar
<b>701-0721-AAL</b>	<b>Psychology</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>3 credits</b>	<b>6R</b>
701-0721-AA R	Psychology <i>Self-study course. No presence required. Please contact Prof. Michael Siegrist for further information.</i>		90s hrs	M. Siegrist
<b>752-4001-AAL</b>	<b>Microbiology</b> <i>Enrolment ONLY for MSc students with a decree declaring this course unit as an additional admission requirement.</i>  <i>Any other students (e.g. incoming exchange students, doctoral students) CANNOT enrol for this course unit.</i>	<b>E-</b>	<b>2 credits</b>	<b>4R</b>
752-4001-AA R	Microbiology <i>Self-study course. No presence required.</i>		60s hrs	M. Ackermann

#### Environmental Sciences Master - Key for Type

W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate
E-	Recommended, not eligible for credits	O	Compulsory

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS      European Credit Transfer and Accumulation System  
■      Special students and auditors need special permission from the lecturers.

# Process Engineering Master

## ► Core Courses

Number	Title	Type	ECTS	Hours					Lecturers
<b>151-0107-20L</b>	<b>High Performance Computing for Science and Engineering (HPCSE) I</b>	<b>W</b>	<b>4 credits</b>	<b>4G</b>					
151-0107-20 G	High Performance Computing for Science and Engineering (HPCSE) I <i>Lecture: 12-14h</i> <i>Exercises: 14-16h</i>			4 hrs	Fri	12-14 14-16	ML H44 ML H44		<b>P. Koumoutsakos</b> , S. M. Martin
<b>151-0125-00L</b>	<b>Hydrodynamics and Cavitation</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0125-00 G	Hydrodynamics and Cavitation			3 hrs	Mon	10-13	HG E21		<b>C. Bourquard</b> , L. Biasiori-Poulanges
<b>151-0185-00L</b>	<b>Radiation Heat Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0185-00 V	Radiation Heat Transfer <i>Online lecture: This lecture will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			2 hrs	Thu	10-12	ML F39		<b>A. Steinfeld</b> , P. Pozivil
151-0185-00 U	Radiation Heat Transfer <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			1 hrs	Thu	12-13	ML F39		<b>A. Steinfeld</b> , P. Pozivil
<b>151-0209-00L</b>	<b>Renewable Energy Technologies</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0209-00 G	Renewable Energy Technologies <i>Online event: Will primarily take place online. Reserved rooms will remain blocked on campus for students to follow the course from there.</i>			3 hrs	Tue	14-17	HG G5		<b>A. Steinfeld</b> , E. I. M. Casati
<b>151-0213-00L</b>	<b>Fluid Dynamics with the Lattice Boltzmann Method</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0213-00 G	Fluid Dynamics with the Lattice Boltzmann Method <i>This course will be taught in a hybrid of online and face-to-face classroom formats; students will be informed who can attend the class on campus or should join the live streaming class.</i>			3 hrs	Wed	10-13	IFW B42		<b>I. Karlin</b>
<b>151-0293-00L</b>	<b>Combustion and Reactive Processes in Energy and Materials Technology</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U+2A</b>					
151-0293-00 V	Combustion and Reactive Processes in Energy and Materials Technology			2 hrs	Thu	10-12	CAB G61		<b>N. Noiray</b> , F. Ernst, C. E. Frouzakis
151-0293-00 U	Combustion and Reactive Processes in Energy and Materials Technology			1 hrs	Mon	17-18	ML F36		<b>N. Noiray</b> , F. Ernst, C. E. Frouzakis
151-0293-00 A	Combustion and Reactive Processes in Energy and Materials Technology			30s hrs	by appt.				<b>N. Noiray</b> , F. Ernst, C. E. Frouzakis
<b>151-0509-00L</b>	<b>Microscale Acoustofluidics</b>	<b>W</b>	<b>4 credits</b>	<b>3G</b>					
151-0509-00 G	Microscale Acoustofluidics <i>The course will take place on 29.09.21 in ML F 36.</i>			3 hrs	Wed 29.09.	13-16 13-16	LFO C13 ML F36		<b>J. Dual</b>
<b>151-0902-00L</b>	<b>Micro- and Nanoparticle Technology</b> <i>Number of participants is limited to 20. Additional ones could be enrolled by permission of the lecturer.</i>	<b>W</b>	<b>6 credits</b>	<b>2V+2U</b>					
151-0902-00 V	Micro- and Nanoparticle Technology <i>Permission from lecturers required for all students</i>			2 hrs	Fri	10-12	ML F40		<b>S. E. Pratsinis</b> , G. Kelesidis, K. Wegner
151-0902-00 U	Micro- and Nanoparticle Technology <i>Permission from lecturers required for all students</i>			2 hrs	Wed	14-16	ML F40		<b>S. E. Pratsinis</b> , G. Kelesidis, V. Mavrantzas
<b>151-0905-00L</b>	<b>Medical Technology Innovation - From Concept to Clinics</b>	<b>W</b>	<b>4 credits</b>	<b>3P</b>					
151-0905-00 P	Medical Technology Innovation - From Concept to Clinics			3 hrs	Tue	08-11	LFW C4		<b>I. Herrmann</b>
<b>151-0911-00L</b>	<b>Introduction to Plasmonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>					
151-0911-00 V	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>			2 hrs					<b>D. J. Norris</b>
151-0911-00 U	Introduction to Plasmonics <i>Does not take place this semester. Will be offered again in HS22.</i>			1 hrs					<b>D. J. Norris</b>
<b>151-0913-00L</b>	<b>Introduction to Photonics</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0913-00 V	Introduction to Photonics			2 hrs	Thu	10-12	HG E22		<b>R. Quidant</b> , J. Ortega Arroyo
151-0913-00 U	Introduction to Photonics			2 hrs	Thu	14-16	HG E22		<b>R. Quidant</b> , J. Ortega Arroyo
<b>151-0917-00L</b>	<b>Mass Transfer</b>	<b>W</b>	<b>4 credits</b>	<b>2V+2U</b>					
151-0917-00 V	Mass Transfer			2 hrs	Wed	10-12	ML H44		<b>S. E. Pratsinis</b> , V. Mavrantzas, C.-J. Shih
151-0917-00 U	Mass Transfer <i>The exercise will start in the 2nd week of the Semester.</i>			2 hrs	Tue	14-16	HG E1.1		<b>S. E. Pratsinis</b> , V. Mavrantzas, C.-J. Shih
<b>151-0927-00L</b>	<b>Rate-Controlled Separations in Fine Chemistry</b>	<b>W</b>	<b>6 credits</b>	<b>3V+1U</b>					

151-0927-00 V	Rate-Controlled Separations in Fine Chemistry <i>The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.</i>			3 hrs	Thu	11-14	ML F34	<b>M. Mazzotti</b> , V. Becattini
151-0927-00 U	Rate-Controlled Separations in Fine Chemistry <i>The class will be in a hybrid mode. The exact modality will be discussed and agreed upon with the students during the first week of the semester.</i>			1 hrs	Thu	14-15	ML F34	<b>M. Mazzotti</b> , V. Becattini
<b>151-0951-00L</b>	<b>Process Design and Safety</b>	<b>W</b>	<b>4 credits</b>	<b>2V+1U</b>				
151-0951-00 V	Process Design and Safety			2 hrs	Tue	08-10	ML F34	<b>F. Trachsel</b> , C. Hutter
151-0951-00 U	Process Design and Safety			1 hrs	Tue	13-14	ML F34	<b>F. Trachsel</b> , C. Hutter
<b>151-0957-00L</b>	<b>Practica in Process Engineering I</b> <i>Prerequisites: "Einführung in Verfahrenstechnik" (151-0973-00L) and further process engineering courses.</i>	<b>W</b>	<b>2 credits</b>	<b>2P</b>				
151-0957-00 P	Practica in Process Engineering I ■ <i>4 times Monday afternoon</i>			32s hrs				<b>S. A. Meyer</b> , M. Tibbitt
<b>529-0613-01L</b>	<b>Process Simulation and Flowsheeting</b>	<b>W</b>	<b>6 credits</b>	<b>3G</b>				
529-0613-01 G	Process Simulation and Flowsheeting <i>The module combines theory-based lectures (Mondays) with practical lectures based on Aspen (Wednesdays)</i>			3 hrs	Mon Wed	10-13 14-18	HCI J4 HCI G174	<b>G. Guillén Gosálbez</b>

## ► Multidisciplinary Courses

The students are free to choose individually from the Course Catalogue of ETH Zurich, ETH Lausanne and the Universities of Zurich (<https://www.uzh.ch/cmsssl/en/studies/application/chmobilityin.html>) and St. Gallen.

Course Catalogue of ETH Zurich

## ► Semester Project

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-1008-00L</b>	<b>Semester Project Process Engineering</b> <i>Only for Process Engineering MSc.</i>	<b>O</b>	<b>8 credits</b>	<b>17A</b>	
	<i>The subject of the Master Thesis and the choice of the supervisor (ETH-professor) are to be approved in advance by the tutor.</i>				
151-1008-00 A	Semester Project Process Engineering			240s hrs by appt.	Professors

## ► Industrial Internship

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-1090-00L</b>	<b>Industrial Internship</b> <i>Access to the company list and request for recognition under <a href="http://www.mavt.ethz.ch/praxis">www.mavt.ethz.ch/praxis</a>.</i>	<b>O</b>	<b>8 credits</b>		
	<i>No registration required via myStudies.</i>				
151-1090-00 P	Industrial Internship				external organisers

## ► GESS Science in Perspective

see GESS Science in Perspective:  
Language Courses ETH/UZH

see GESS Science in Perspective: Type A:  
Enhancement of Reflection Capability

Recommended GESS Science in  
Perspective (Type B) for D-MAVT.

## ► Master's Thesis

Number	Title	Type	ECTS	Hours	Lecturers
<b>151-1005-00L</b>	<b>Master's Thesis Process Engineering</b> <i>Students who fulfill the following criteria are allowed to begin with their Master's Thesis:</i> <i>a. successful completion of the bachelor program;</i> <i>b. fulfilling of any additional requirements necessary to gain admission to the master programme;</i> <i>c. successful completion of the semester project and industrial internship;</i> <i>d. achievement of 28 ECTS in the category "Core Courses".</i>	<b>O</b>	<b>30 credits</b>	<b>64D</b>	
	<i>The Master's Thesis must be approved in advance by the tutor and is supervised by a professor of ETH Zurich.</i> <i>To choose a titular professor as a supervisor, please contact the D-MAVT Student Administration.</i>				
151-1005-00 D	Master's Thesis Process Engineering ■			900s hrs by appt.	Professors

## ► Seminars, Colloquia, and Additional Courses

Number	Title	Type	ECTS	Hours				Lecturers	
<b>151-0931-00L</b>	<b>Seminar on Particle Technology</b>	<b>E-</b>	<b>0 credits</b>	<b>3S</b>					<b>S. E. Pratsinis</b>
151-0931-00 S	Seminar on Particle Technology			3 hrs	Fri	14-17	ML F40		
<b>227-0920-00L</b>	<b>Seminar in Systems and Control</b>	<b>E-</b>	<b>0 credits</b>	<b>1S</b>					<b>F. Dörfler</b> , R. D'Andrea, E. Frazzoli, M. H. Khammash, J. Lygeros, R. Smith
227-0920-00 S	Seminar in Systems and Control <i>Detailed information on the seminars upon subscription only: Several seminars will take place during the semester, but some of the available slots may remain unoccupied. Seminars will be announced individually, enrolled students will received detailed information for each one by email.</i>  <i>Online lecture: This lecture will take place online until 25.10.21. Reserved room will remain reserved on campus for students to follow the course from there. From 01.11.21 in presence. Course website: <a href="https://nccr-automation.ch/news/2021/nccr-automation-seminar-series">https://nccr-automation.ch/news/2021/nccr-automation-seminar-series</a></i>			1 hrs	Mon 21.09.	16-17 16-17	ML F38 ON LINE		
<b>227-0970-00L</b>	<b>Research Topics in Biomedical Engineering</b>	<b>E-</b>	<b>0 credits</b>	<b>1K</b>					<b>K. P. Prüssmann</b> , S. Kozerke, M. Stampanoni, K. Stephan, J. Vörös
227-0970-00 K	Research Topics in Biomedical Engineering			1 hrs	Tue	18-19	ETZ E6		

#### Process Engineering Master - Key for Type

O	Compulsory	E-	Recommended, not eligible for credits
W+	Eligible for credits and recommended	Z	Courses outside the curriculum
W	Eligible for credits	Dr	Suitable for doctorate

#### Key for Hours

V	lecture	P	practical/laboratory course
G	lecture with exercise	A	independent project
U	exercise	D	diploma thesis
S	seminar	R	revision course / private study
K	colloquium		

ECTS European Credit Transfer and Accumulation System  
 ■ Special students and auditors need special permission from the lecturers.