Master of Science in Applied Information and Data Science
Course Catalogue
for students who started their studies between autumn semester 2022 and autumn semester 2023

Abbreviations
RC: regular courses (weekly); BS: block seminars; IW: indivual work; G: teaching language German; E: teaching language English; INT: HSLU internal web registration

Required Modules (39 ECTS Credits)

Module Code	Module Name	ECTS	Recommended Semester	Lang.	Lecturers	Form	Registration
W.MSCIDS_CSC01.18	Computer Science Concepts for Data Scientists	3	1	E	Martin Zimmermann, Halldór Janetzko	RC	INT
W.MSCIDS_DDE01.18	Design of Data Experiments	3	1	E	Jürg Schwarz	RC	INT
W.MSCIDS_LIA01.22	Linear Algebra 1	3	1	E	Peter Scheiblechner, Peter Büchel	RC	INT
W.MSCIDS_PDS01.18	Python for Data Science	6	1	G/E	Erwin Mathis, Simon Broda, Ramón Christen	RC	INT
W.MSCIDS_SA01.18	Classical and Bayesian Statistics	6	1	E	Peter Büchel	RC	INT
W.MSCIDS_CIP02.18	Data Collection, Integration and Preprocessing	3	2	G/E	Erwin Mathis, Ramón Christen	RC	INT
W.MSCIDS_DBM02.18	Database Management for Data Scientists	3	2	G/E	Michael Kaufmann, Luis Terán, Georg Lampart	RC	INT
W.MSCIDS_DQU02.21	Data Quality	3	2	E	Jürg Schwarz	RC	INT
W.MSCIDS_MPM02.18	Applied Machine Learning and Predictive Modelling 1	3	2	E	Matteo Tanadini, Luisa Barbanti, Daniel Meister	RC	INT
W.MSCIDS_MPM03.19	Applied Machine Learning and Predictive Modelling 2	3	2	E	Oliver Staubli	RC	INT
W.MSCIDS_RTP02.18	Discrete Response, Time Series and Panel Data	3	2	E	Philip Schütz	RC	INT

Master-Thesis-Project (30 ECTS Credits)

Module Code	Module Name	ECTS	Recommended semester	lang.	Lecturers	Form	Registration
W.MSCIDS_PMT03.18	Preliminary Study	6	3	G/E	Andreas Brandenberg	IW	seperate
W.MSCIDS_MT04.18	Master Thesis	24	4	G/E	Andreas Brandenberg	IW	seperate

General Core Elective Modules (minimum 21 ECTS Credits)

Module Code	Module Name	ECTS	Recommended semester	lang.	Lecturers	Form	Registration
W.MSCIDS_DI01.18	Data Ideation	3	1	E	Michael Lewrick	BS	INT
W.MSCIDS_LIA02.22	Linear Algebra 2	3	1	E	Peter Scheiblechner, Peter Büchel	RC	INT
W.MSCIDS_RB01.19	R-Bootcamp	3	1	E	Matteo Tanadini, Claude Renaux	BS	INT
W.MSCIDS_DDB01.18	*Data-Driven Business Models*	*3*	*2*	*E*	*Schreiber Florian, KLARA*	*RC*	*no longer offered*
W.MSCIDS_DMP01.22	Designing and Managing Data Science Projects	3	2	E	Michael Zehnder, Barbara Kummler	RC	INT
W.MSCIDS_EBD03.20	Ethical Issues of Big Data	3	2	E	Bruno Frischherz, Gordon Millar	RC	INT
W.MSCIDS_HCD02.18	Human Centered Design	3	2	E	Peter Horvath	RC	INT
W.MSCIDS_MDE02.18	Management of Digital Enterprise	3	2	E	Andreas Lucco	RC	INT
W.MSCIDS_DIT04.21	Interview Training for Data Scientists	3	3	E	Laurent Meyer, Nitin Kumar	BS	INT
W.MSCIDS_DVN03.18	Data Visualisation and Narration	3	3	E	Samuel Frei, Marina Bräm	RC	INT
W.MSCIDS_HVD03.22	Hands on Visualisation for Data Science	3	3	E	Luis Téran, José Mancera	RC	INT
W.MSCIDS_LBD03.20	Legal Issues of Big Data	3	3	E	Reto Fanger	RC	INT
W.MSCIDS_CW03.22	Scientific Writing and Presentation Skills – Input and Coaching	3	3	G/E	Martin Gutmann, Vinzenz Rast	RC	INT
W.MSCIDS_DC03.22	*Sport Hackdays*	*3*	*3*	*E*	*Martin Rumo*	*RC*	*no longer offered*
W.MSCIDS_GOV03.22	Data Strategy and Governance	3	3	E	Dimitrios Marinos, Michael Zehnder, Andreas Brandenberg	BS	INT
W.MSCIDS_WDS02.20	Web and Data Scraping with R	3	3	E	Reto Hofstetter	BS	INT
W.MSCIDS_DL04.18	Digital Leadership	3	4	E	Stephanie Kaudela-Baum, Marcel Altherr	BS	INT
W.MSCIDS_SW04.22	Study Week	3	4	E	Andreas Brandenberg	BS	seperate
W.MSCIDS_GSERM01.19	Global School of Empirical Research Methods	4	open	E	Andreas Herrmann	external	via GSERM
W.MSCIDS_IBM01.21	IBM Watson Chatbot Challenge	6	open	E	Dean Heizmann, Mario Locher	external	via IBM (only in spring sem.)
W.MSCIDS_NET02.22	Collaborative Innovation Networks	6	3	E	Peter Gloor	external	INT
W.MSCIDS_SAS02.22	SAS Joint Certificate	6	open	E	Markus Grau	external	via SAS

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Core Elective Modules "Advanced Analytics and Engineering" (minimum 9 ECTS Credits)							
Module Code	**Module Name**	**ECTS**	**Recommended semester**	**lang.**	**Lecturers**	**Form**	**Registration**
W.MSCIDS_AMS03.19	Analysis and Modelling of Social Interactions	3	3	E	Isabel Raabe, Mark Rowan	RC	INT
W.MSCIDS_BDL03_1.22	NoSQL Lab with Python & MongoDB	3	3	E	Oliver Staubli	RC	INT
W.MSCIDS_BDL03_2.21	Big Data in the Cloud	3	3	E	Dimitrios Marinos	BS	INT
W.MSCIDS_CTA03.19	Computational Language Technologies	3	3	E	Diego Antognini, Guang Lu	RC	INT
W.MSCIDS_CVI03.22	Computer Vision	3	3	E	Umberto Michelucci, Mirko Birbaumer	BS	INT
W.MSCIDS_DPL03.22	Deep Learning	3	3	E	Mirko Birbaumer	RC	INT
W.MSCIDS_DWL03.22	Data Warehouse and Data Lake Systems	6	3	E	Luis Terán, José Mancera	RC	INT
W.MSCIDS_ETL03.20	Modern Data Engineering	3	3	E	Christian Dollfus, Pavlin Mavrodiev	RC	INT
W.MSCIDS_PRA03.19	Pattern Recognition in Audio-Signals	3	3	E	Kilian Schuster	RC	INT
W.MSCIDS_REC03.20	Recommender Systems	3	3	E	Guang Lu	BS	INT

Core Elective Modules "Domaine Experience" (minimum 9 ECTS Credits)							
Module Code	**Module Name**	**ECTS**	**Recommended semester**	**lang.**	**Lecturers**	**Form**	**Registration**
W.MSCIDS_DE_CRA01.18	Customer Data Analytics	3	open	E	Dominik Georgi, Ingo Gächter	RC	INT
W.MSCIDS_DE_DAE01.19	Data Analytics for Energy Systems and IoT	3	open	E	Philipp Schütz	RC	INT
W.MSCIDS_DE_FRD01.20	Fraud Detection	3	open	E	Peter Fischer	RC	INT
W.MSCIDS_DE_GD01.18	Geospatial Data Analysis for Smart Communities	3	open	E	Timo Ohnmacht	RC	INT
W.MSCIDS_DE_HEA01.18	Data Science in Healthcare	3	open	E	Philip Hochuli	RC	INT
W.MSCIDS_DE_NER01.21	Natural Experiments Using R	3	open	E	Lukas Schmid	BS	INT
W.MSCIDS_DE_ODS01.23	Open (Government) Data with Tableau	3	open	E	Andreas Hüsser	RC	INT
W.MSCIDS_DE_SDA01.20	Sport Data Analytics	3	open	E	Martin Rumo	BS	INT
W.MSCIDS_DE_TSA01.18	Time Series Analysis in Finance	3	open	E	Thomas Ankenbrand, Denis Bieri	RC	INT
W.MSCIDS_DE_LOG01.22	Data-Driven Supply Chain Management and Logistics	3	2	E	Uta Jüttner	RC	INT
W.MSCIDS_DE_SUA01.22	Sustainability Analytics	3	2	E	Salomon Billeter, David Bürgisser	BS	INT