Course Catalogue

Courses Lecturers Time and Place

252-0835-00L Computer Science I

Semester	Autumn Semester 2014
Lecturers	**F. O. Friedrich**
Periodicity	yearly course
Language of instruction	German

Tabs

Catalogue data

Abstract	The course covers the fundamental concepts of computer programming with a focus on systematic algorithmic problem solving. Teached language is C++. No programming experience is required.
Objective	Primary educational objective is to learn programming with C++. When successfully attended the course, students have a good command of the mechanisms to construct a program. They know the fundamental control and data structures and understand how an algorithmic problem is mapped to a computer program. They have an idea of what happens "behind the secenes" when a program is translated and executed. Secondary goals are an algorithmic computational thinking, undestanding the possibilities and limits of programming and to impart the way of thinking of a computer scientist.
Content	The course covers fundamental data types, expressions and statements, (Limits of) computer arithmetic, control statements, functions, arrays, structural types and pointers. The part on object orientiation deals with classes, inheritance and polymorphy, simple dynamic data types are introduced as examples. In general, the concepts provided in the course are motivated and illustrated with algorithms and applications.
Lecture notes	A script written in English will be provided during the semeter. The script and slides will be made available for download on the course web page.
Literature	Bjarne Stroustrup: Einführung in die Programmierung mit C++, Pearson Studium, 2010 Stephen Prata, C++ Primer Plus, Sixth Edition, Addison Wesley, 2012 Andrew Koenig and Barbara E. Moo: Accelerated C++, Addison-Wesley, 2000.
Prerequisites / Notice	From AS 2013, an admission to the exam does not any more formally require an attending of the recitation sessions. Handing in solutions to the weekly exercise sheets is thus not mandatory, but we strongly recommend it. Examination is a one hour-long written test.

Performance assessment

Performance assessment information (valid until the course unit is held again)

▸ **Performance assessment as a two-semester course together with 252-0836-00L Computer Science II (next semester)**

For programme regulations (Examination block)	Bachelor Programme in Computational Science and Engineering 2008; Version 01.08.2014 (Examination Block) Bachelor's Programme in Electrical Engineering and Information Technology 2004; Version 19.06.2012 (Examination Block) Bachelor's Programme in Electrical Engineering and Information Technology 2012; Version 24.02.2016 (Examination Block)
ECTS credits	8 credits

▸ **Performance assessment as a semester course (other programmes)**

In examination block for	Bachelor's Programme in Computational Science and Engineering 2010; Version 01.08.2014 (Examination Block) Bachelor's Programme in Computational Science and Engineering 2012; Version 24.02.2016 (Examination Block)
ECTS credits	4 credits
Examiners	**F. O. Friedrich**
Type	session examination
Language of examination	German
Course attendance confirmation required	No
Repetition	The performance assessment is offered every session. Repetition possible without re-enrolling for the course unit.
Mode of examination	written 60 minutes
Additional information on mode of examination	Wir offerieren im Semester zwei freiwillige Programmierübungen, welche korrigiert und bewertet werden. Die dabei erzielten Punkte werden in die spätere Prüfungsklausur als Bonus mitgenommen. Maximal erreichbarer Bonus entspricht 1/4 Note. Dieser Bonus kann nicht in spätere Repetitionsklausuren mitgenommen werden.
Written aids	keine

If the course unit is part of an examination block, the credits are allocated for the successful completion of the whole block.
This information can be updated until the beginning of the semester; information on the examination timetable is binding.

Learning materials

Main link	**Information**

Only public learning materials are listed.

Courses

Number	Title	Hours				Lecturers
252-0835-00 V	Informatik I	2 hrs	Wed	08-10	ETF E 1 »	**F. O. Friedrich**
252-0835-00 U	Informatik I	2 hrs	Mon	13-15	CHN F 42 »	**F. O. Friedrich**
				13-15	ETZ E 6 »	
				13-15	ETZ F 91 »	
				13-15	ETZ G 91 »	
				13-15	ETZ H 91 »	
				13-15	IFW A 34 »	
				13-15	ML F 34 »	
				13-16	HG E 26.1 »	
				15-17	CHN G 46 »	
				15-17	ETZ F 91 »	
				15-17	ETZ G 91 »	
				15-17	ETZ H 91 »	
				15-17	ETZ K 91 »	
				15-17	HG D 5.1 »	
				16-19	HG E 26.1 »	
				17-19	ETZ F 91 »	
				17-19	ETZ G 91 »	
				17-19	ETZ H 91 »	
				17-19	ETZ K 91 »	
				17-19	IFW D 42 »	
			27.10.	13-15	HG E 23 »	

Restrictions

There are no additional restrictions for the registration.

Offered in

Programme	Section	Type
Electrical Engineering and Information Technology Bachelor	**First Year Examinations**	**O**
Computer Science (General Courses)	**Computer Science for Non-Computer Scientists**	**Z**

Computational Science and Engineering Bachelor	**First Year Courses**	**O**

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