Computer Science (CS) BSc

Matriculation Fall 2020

	Program-Specific Modules	Type	Assessment	Period	Status[1]	Sem.	CP
Year 1 - CHOICE							**45**
Take the mandatory CHOICE modules listed below, this is a requirement for the Computer Science program.							
	Unit: Programming, Algorithms, and Data Structures (default minor choice modules)						**15**
CH-230	**Module: Programming in C and C++**				**m**	**1**	**7.5**
CH-230-A	Programming in C and C++	Lecture	Written examination	Examination period			2.5
CH-230-B	Programming in C and C++ Tutorial	Tutorial	Practical assessment	During the semester			5
CH-231	**Module: Algorithms and Data Structures**				**m**	**2**	**7.5**
CH-231-A	Algorithms and Data Structures	Lecture	Written examination	Examination period			
	Unit: Computer Science, Robotics, and Intelligent Systems						**15**
CH-232	**Module: Introduction to Computer Science**				**m**	**1**	**7.5**
CH-232-A	Introduction to Computer Science	Lecture	Written examination	Examination period			
CH-220	**Module: Introduction to Robotics and Intelligent Systems**				**m**	**2**	**7.5**
CH-220-A	Introduction to Robotics and Intelligent Systems	Lecture	Written examination	Examination period			5
CH-220-B	Introduction to Robotics and Intelligent Systems Lab	Lab					2.5
	Unit: CHOICE (own selection)					**1/2**	**15**
Take two further CHOICE modules from those offered for all other study programs.[2]							
Year 2 - CORE							**45**
Take all CORE modules listed below or replace mandatory elective (me) modules with suitable CORE modules from other study programs.[3]							
	Unit: Advanced Computer Science I (default minor advanced modules)						**15**
CO-560	**Module: Databases and Web Services**				**m**	**3**	**7.5**
CO-560-A	Databases and Web Services - Lecture	Lecture	Written examination	Examination period			5
CO-560-B	Databases and Web Services - Project	Project	Project assessment	During the semester			2.5
CO-561	**Module: Software Engineering**				**m**	**4**	**7.5**
CO-561-A	Software Engineering	Lecture	Written examination	Examination period			2.5
CO-561-B	Software Engineering Project	Project	Project assessment	During the semester			5
	Unit: Advanced Computer Science II						**15**
CO-562	**Module: Operating Systems**				**m**	**3**	**7.5**
CO-562-A	Operating Systems	Lecture	Written examination	Examination period			
CO-563	**Module: Automata, Computability, and Complexity**				**m**	**4**	**7.5**
CO-563-A	Automata, Computability, and Complexity	Lecture	Written examination	Examination period			
	Unit: Advanced Computer Science III						**15**
CO-564	**Module: Computer Networks**				**me**	**3**	**5**
CO-564-A	Computer Networks	Lecture	Written examination	Examination period			
CO-565	**Module: Legal and Ethical Aspects of Computer Science**				**me**	**3**	**2.5**
CO-565-A	Legal and Ethical Aspects of Computer Science	Lecture	Poster presenation	Examination period			
CO-566	**Module: Secure and Dependable Systems**				**me**	**4**	**5**
CO-566-A	Secure and Dependable Systems	Lecture	Written examination	Examination period			
CO-567-A	**Module: Academic Skills in Computer Science**				**me**	**4**	**2.5**
CO-567-A	Academic Skills in Computer Science	Seminar	Project assessment	Examination period			
Year 3 - CAREER							**45**
CA-INT-900	**Module: Summer Internship**				**m**	**4/5**	**15**
CA-INT-900-0	Summer Internship		Report/Business Plan	During the 5th semester			
CA-CS-800	**Module: Thesis / Seminar CS**				**m**	**6**	**15**
CA-CS-800-T	Thesis CS	Thesis	Thesis	15th of May			12
CA-CS-800-S	Seminar CS	Seminar	Presentation	During the semester			3
	Unit: Specialization CS				**m**	**5/6**	**15**
Take a total of 15 CP Specialization Modules							
CA-S-CS-801	**Module: Computer Graphics**				**me**	**5**	**5**
CA-S-CS-801-A	Computer Graphics	Lecture	Written examination	Examination period			
CA-S-CS-802	**Module: Image Processing**				**me**	**6**	**5**
CA-S-CS-802-A	Image Processing	Lecture	Written examination	Examination period	me	6	5
CA-S-CS-803	**Module: Distributed Algorithms**				**me**	**5**	**5**
CA-S-CS-803-A	Distributed Algorithms	Lecture	Written examination	Examination period	me	5	5
CA-S-CS-804	**Module: Web Application Development**				**me**	**6**	**5**
CA-S-CS-804-A	Web Application Development	Lecture	Written examination	Examination period			2.5
CA-S-CS-804-B	Web Application Development	Project	Project assessment	During the semester			2.5
CA-S-xxx	**Specialization electives (from RIS, ECE study programs)[3]**	Lecture	Written examination	Examination period	**me**	**5/6**	**5**
Total CP							**180**

	Jacobs Track Modules (General Education)	Type	Assessment	Period	Status[1]	Sem.	CP
							15
	Unit: Methods / Skills						**10**
JTMS-MAT-09	**Module: Calculus and Elements of Linear Algebra I**				**m**	**1**	**5**
JTMS-09	Calculus and Elements of Linear Algebra I	Lecture	Written examination	Examination period			
JTMS-MAT-10	**Module: Calculus and Elements of Linear Algebra II**				**m**	**2**	**5**
JTMS-10	Calculus and Elements of Linear Algebra II	Lecture	Written examination	Examination period			
	Unit: Language						**5**
	German is default language. Native German speakers take modules in another offered language.						
JTLA-xxx	**Module: Language 1**				**m**	**1**	**2.5**
JTLA-xxx	Language 1	Seminar	Various	Various	me		
JTLA-xxx	**Module: Language 2**				**m**	**2**	**2.5**
JTLA-xxx	Language 2	Seminar	Various	Various	me		
							15
	Unit: Methods / Skills						**10**
JTMS-MAT-12	**Module: Probability and Random Processes**				**m**	**3**	**5**
JTMS-12	Probability and Random Processes	Lecture	Written examination	Examination period			5
	Take one of the two listed mandatory elective methods modules:						
CO-501	**Module: Discrete Mathematics**				**me**	**4**	**5**
CO-501-A	Discrete Mathematics	Lecture	Written examination	Examination period			
JTMS-MAT-13	**Module: Numerical Methods [4]**				**me**	**4**	**5**
JTMS-13	Numerical Methods	Lecture	Written examination	Examination period			
	Unit: Language						**5**
	German is default language. Native German speakers take modules in another offered language.						
JTLA-xxx	**Module: Language 3**				**m**	**3**	**2.5**
JTLA-xxx	Language 3	Seminar	Various	Various	me		
JTLA-xxx	**Module: Language 4**				**m**	**4**	**2.5**
JTLA-xxx	Language 4	Seminar	Various	Various	me		
							15
	Unit: Big Questions						**10**
JTBQ-BQ-xxx	**Module: Big Questions**				**m**	**5/6**	
JTBQ-xxx		Lecture	Various	Various	me		10
	Unit: Community Impact Project						**5**
JTCI-CI-950	**Module: Community Impact Project**				**m**	**5**	**5**
JTCI-950	Community Impact Project	Project	Project	Examination period			

[1] Status (m = mandatory, me = mandatory elective)

[2] For a full listing of all CHOICE / CORE / CAREER / Jacobs Track modules please consult the CampusNet online catalogue and /or the study program handbooks.

[3] For details please see the CS program handbook

[4] Students who take a minor in Mathematics have to choose Numerical Methods module.