Study and Examination Plan

Robotics and Intelligent Systems (RIS) BSc

Matriculation Fall 2022

	Program-Specific Modules	Type	Assessment	Period	Status[1]	Sem.	CP
Year 1 - CHOICE	*Take the mandatory CHOICE modules listed below*						**45**
							15
CH-220	**Module: Introduction to Robotics and Intelligent Systems (default minor)**				**m**	**2**	**7.5**
CH-220-A	Introduction to Robotics and Intelligent Systems	Lecture	Written examination	Examination period			5
CH-220-B	Intro to RIS - lab	Lab					2.5
CH-231	**Module: Algorithms and Data Structures**				**m**	**2**	**7.5**
CH-231-A	Algorithms and Data Structures	Lecture	Written examination	Examination period			
							30
CH-230	**Module: Programming in C and C++ (default minor)**				**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 assignments	During the semester			5
CH-140	**Module: Classical Physics**				**m**	**1**	**7.5**
CH-140-A	Classical Physics	Lecture	Written exam	Examination period			5
CH-140-B	Classical Mechanics Lab	Lab	Lab report	During the semester			2.5
CH-210	**Module: General Electrical Engineering I**				**m**	**1**	**7.5**
CH-210-A	General Electrical Engineering I	Lecture	Written exam	Examination period			5
CH-210-B	General Electrical Engineering Lab I	Lab	Lab report	During the semester			2.5
CH-232	**Module: Introduction to Computer Science**				**m**	**2**	**7.5**
CH-232-A	Introduction to Computer Science	Lecture	Written examination	Examination period			
Year 2 - CORE	*Take all CORE modules listed below or replace mandatory elective ("me") modules with the default minor CORE modules of Computer Science.*[2]						**45**
	Unit: Robotics (default minor)						**15**
CO-540	**Module: Robotics**				**m**	**3**	**5**
CO-540-A	Robotics	Lecture	Written examination	Examination period			
CO-541	**Module: Machine Learning**				**m**	**4**	**5**
CO-541-A	Machine Learning	Lecture	Written examination	Examination period			
CO-542	**Module: RIS Lab**				**me**	**3-4**	**5**
CO-542-A	RIS Lab 1	Lab	Lab Report	During the semester		3	2.5
CO-542-B	RIS Lab 2	Lab	Lab Report			4	2.5
	Unit: Automation and Control						**15**
CO-543	**Automation**				**me**	**4**	**5**
CO-543-A	Automation	Lecture	Written examination	Examination period			
CO-544	**Module: Embedded Systems**				**me**	**3**	**5**
CO-544-A	Embedded Systems	Lecture/Lab	Project	During the semester			
CO-545	**Module: Control Systems**				**me**	**3**	**5**
CO-545-A	Control Systems	Lecture	Written examination	Examination period			
	Unit: Intelligent Systems						**15**
CO-546	**Module: Computer Vision**				**me**	**3**	**5**
CO-546-A	Computer Vision	Lecture/Lab	Written examination	Examination period			
CO-547	**Module: Artificial Intelligence**				**m**	**4**	**5**
CO-547-A	Artificial Intelligence	Lecture	Written examination	Examination period			
CO-548	**Module: RIS project**				**m**	**4**	**5**
CO-548-A	RIS project	Project/Lab	Report / Presentation	During the semester			
Year 3 - CAREER							**45**
CA-INT-900	**Module: Summer Internship**				**m**	**4/5**	**15**
CA-INT-900-0	Summer Internship	Internship	Report/Business Plan and Presentation	During the 5th Semester			
CA-RIS-800	**Module: Thesis / Seminar IMS**				**m**	**6**	**15**
CA-RIS-800-T	Thesis IMS	Thesis	Thesis and Presentation	15th of May			12
CA-RIS-800-S	Seminar IMS	Seminar		During the semester			3
	Unit: Specialization RIS				**m**	**5/6**	**15**
	Take a total of 15 CP of specialization modules						
CA-S-RIS-801	Marine Robotics	Lecture/Lab	Oral examination	Examination period	me	6	5
CS-S-RIS-802	Human-Computer Interaction	Lecture	Written examination	Examination period	me	5	5
CS-S-RIS-803	Optimisation	Lecture	Written examination	Examination period	me	6	5
CA-S-xxx	Specialization elective (from CS, ECE, Math, IEM, DE study programs)	Various	Various	Various	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 Linear Algebra I	Lecture	Written examination	Examination period			5
Module Code	**Module: Calculus and Elements of Linear Algebra II**				**m**	**2**	**5**
JTMS-10	Calculus and Linear Algebra II	Lecture	Written examination	Examination period			5
	Unit: Language						**5**
	German is default language. Native German speakers take modules in another offered language.						
Module Code	**Module: Language 1**				**m**	**1**	**2.5**
JTLA-xxx	Language 1	Seminar	Various	Various	me		2.5
Module Code	**Module: Language 2**				**m**	**2**	**2.5**
JTLA-xxx	Language 2	Seminar	Various	Various	me		2.5
							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:						
JTMS-MAT-13	**Module: Numerical Methods**				**me**	**4**	**5**
JTMS-13	Numerical Methods	Lecture	Written examination	Examination period			5
CO-501	**Module: Discrete Mathematics**				**me**	**4**	**5**
CO-501-A	Discrete Mathematics	Lecture	Written examination	Examination period			5
	Unit: Language						**5**
	German is default language. Native German speakers take modules in another offered language.						
Module Code	**Module: Language 3**				**m**	**3**	**2.5**
JTLA-xxx	Language 3	Seminar	Various	Various	me		2.5
Module Code	**Module: Language 4**				**m**	**4**	**2.5**
JTLA-xxx	Language 4	Seminar	Various	Various	me		2.5
							15
	Unit: Big Questions						**10**
JTBQ-BQ	**Module: Big Questions**				**m**	**5/6**	
	Take a total of 10 CP of Big Questions modules with each 2.5 or 5 CP	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 program handbook