Electrical and Computer Engineering (ECE) 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 ECE program.							
	Unit: General Electrical Engineering (default minor)						15
CH-210	**Module: General Electrical Engineering I**				m	1	7.5
CH-210-A	General Electrical Engineering I Lecture	Lecture	Written exam	Examination period			5
CH-210-B	General Electrical Engineering Lab I	Lab	Lab report	During the semester			2.5
CH-211	**Module: General Electrical Engineering II** (pre-requisites GenEE I)				m	2	7.5
CH-211-A	General Electrical Engineering II Lecture	Lecture	Written exam	Examination period			5
CH-211-B	General Electrical Engineering Lab II	Lab	Lab report	During the semester			2.5
							22.5
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-A	Programming in C and C++ Tutorial	Tutorial	Practical Assessment	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 Physics Lab	Lab	Lab report	During the semester			2.5
Take one of the two listed mandatory elective CHOICE modules:							
CH-220	**Module: Introduction to Robotics and Intelligent Systems**				me	2	7.5
CH-220-A	Introduction to Robotics and Intelligent Systems	Lecture	Written exam	Examination period			5
CH-220-B	Introduction to Robotics and Intelligent Systems Lab	Lab	Lab report				2.5
CH-202	**Module: Applied Mathematics**				me	2	7.5
CH-202-A	Advanced Calculus	Lecture	Written exam	Examination period			5
CH-202-B	Numerical Software Lab	Lab	Lab report				2.5
	Unit: CHOICE (own selection)					1/2	7.5
Take one further CHOICE modules from those offered for all other study programs.[2]							
Year 2 - CORE							**45**
Take all CORE modules listed below							
	Unit: Signal Processing (default minor)						15
CO-520	**Module: Signals and Systems**				m	3	7.5
CO-520-A	Signals and Systems Lecture	Lecture	Written exam	Examination period			5
CO-520-B	Signals and Systems Lab	Lab	Lab report	During the semester			2.5
CO-521	**Module: Digital Signal Processing**				m	4	7.5
CO-521-A	Digital Signal Processing Lecture	Lecture	Written exam	Examination period			5
CO-521-B	Digital Signal Processing Lab	Lab	Lab report	During the semester			2.5
	Unit: Communications						10
CO-522	**Module: Communications Basics**				m	3	5
CO-522-A	Communications Basics Lecture	Lecture	Written exam	Examination period			2.5
CO-522-B	Communications Basics Lab	Lab	Lab report	During the semester			2.5
CO-523	**Module: Wireless Communication**				m	4	5
CO-523-A	Wireless Communication I	Lecture	Written exam	Examination period			5
	Unit: Electromagnetics and Information Theory						10
CO-524	**Module: Electromagnetics**				m	3	5
CO-524-A	Electromagnetics	Lecture	Written exam	Examination period			5
CO-525	**Module: Information Theory**				m	4	5
CO-525-A	Information Theory	Lecture	Written exam	Examination period			5
	Unit: Hardware						10
CO-526	**Module: Electronics**				m	3	5
CO-526-A	Electronics Lecture	Lecture	Written exam	Examination period			2.5
CO-526-B	Electronics Lab	Lab	Lab report	During the semester			2.5
CO-527	**Module: PCB design and measurement automation**				m	4	5
CO-527-A	PCB design and measurement automation	Lab	Written exam / Lab report	Examination period / During the semester			5
Year 3 - CAREER							**45**
CA-INT-900	**Module: Internship / Startup and Career Skills**				m	4/5	15
CA-INT-900-0	Internship / Startup and Career Skills	Internship	Report or Businessplan	During the 5th semester			15
CA-ECE-800	**Module: Thesis / Seminar ECE**				m	6	15
CA-ECE-800-T	Thesis ECE	Thesis	Thesis	15th of May			12
CA-ECE-800-S	Seminar ECE	Seminar	Presentation	During the semester			3
	Unit: Specialization ECE				m		15
Take a total of 15 CP of specializatopn modules							
CA-S-ECE-801	Wireless Communication II	Lecture	Written exam	Examination period	me	5	5
CA-S-ECE-802	Coding Theory	Lecture	Written exam	Examination period	me	5	5
CA-S-ECE-803	Digital Design	Lecture/Lab	Written exam	Examination period	me	5	5
CA-S-ECE-804	Radio-Frequency (RF) Design	Lecture	Written exam	Examination period	me	6	5

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 exam	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 exam	Examination period			
	Unit: Language				m		5
German is the default language. Native German speakers take modules in another offered language.							
JTLA	**Module: Language 1**				m	1	2.5
JTLA-xxx	Language 1	Seminar	Various	Various	me		
JTLA	**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 exam	Examination period			
JTMS-MAT-13	**Module: Numerical Methods**				m	4	5
JTMS-13	Numerical Methods	Lecture	Written exam	Examination period			
	Unit: Language						5
German is the default language. Native German speakers take modules in another offered language.							
JTLA	**Module: Language 3**				m	3	2,5
JTLA-xxx	Language 3	Seminar	Various	Various	me		2.5
JTLA	**Module: Language 4**				m	4	2,5
JTLA-xxx	Langauge 4	Seminar	Various	Various	me		2.5
							15
	Unit: Big Questions						10
JTBQ	**Module: Big Questions**				m	5/6	
Take a total of 10 CP of Big Questions modules with each 2.5 - 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			

Total CP	180

[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.