

Appendix 1 - Mandatory Module and Examination Plan

Mathematics BSc								Jacobs Track Modules (General Education)								
Matriculation Fall 2020																
Program-Specific Modules		Type	Assessment	Period	Status ¹	Sem.	CP	Type	Assessment	Period	Status ¹	Sem.	CP			
Year 1 - CHOICE							45	Year 1 - CHOICE							15	
<i>Take the mandatory CHOICE modules listed below, this is a requirement for the Math program.</i>								<i>Take the mandatory CHOICE modules listed below, this is a requirement for the Math program.</i>								
Unit: Foundations of Mathematics (default minor)								Unit: Methods / Skills								
CH-200 Module: Analysis I (default minor)								JTMS-MAT-09 Module: Calculus and Elements of Linear Algebra I								
CH-200-A	Analysis I	Lecture	Written examination	Examination period			5	JTMS-09	Calculus and Elements of Linear Algebra I	Lecture	Written examination	Examination period	m	1	5	
CH-200-B	Tutorial Analysis I	Tutorial					2.5								5	
CH-201 Module: Linear Algebra (default minor)								JTMS-MAT-10 Module: Calculus and Elements of Linear Algebra II								
CH-201-A	Linear Algebra	Lecture	Written examination	Examination period			5	JTMS-10	Calculus and Elements of Linear Algebra II	Lecture	Written examination	Examination period	m	2	5	
CH-201-B	Tutorial Linear Algebra	Tutorial					2.5								5	
CH-202 Module: Applied Mathematics								Unit: Language								
CH-202-A Advanced Calculus								German is the default language. Native German speakers take modules in another offered language.								
CH-202-A	Advanced Calculus	Lecture	Written examination	Examination period			5	JTLA	Module: Language 1				m	1	2.5	
CH-202-B	Numerical Software Lab	Lab	Lab report	Examination period			2.5	JTLA-xxx	Language 1	Seminar	Various	Various	me		2.5	
Unit: CHOICE (own selection)								JTLA Module: Language 2								
								JTLA-xxx Language 2 Seminar Various Various me 2 2.5								
<i>Students take three further CHOICE modules (22.5 CP) from those offered for all other study programs.²</i>																
Year 2 - CORE							45	Year 2 - CORE							10	
<i>Take all modules listed below or replace mandatory elective ("me") modules (15 CP) with suitable CORE modules from other study programs.</i>								<i>Take all modules listed below or replace mandatory elective ("me") modules (15 CP) with suitable CORE modules from other study programs.</i>								
Unit: Default Minor Track								Unit: Methods / Skills								
CO-500 Module: Number Theory								JTMS-MAT-12 Module: Probability and Random Processes								
CO-500-A	Number Theory	Lecture	Written examination	Examination period			5	JTMS-12	Probability and Random Processes	Lecture	Written examination	Examination period	m	3	5	
CO-501 Module: Discrete Mathematics								JTMS-MAT-13 Module: Numerical Methods								
CO-501-A	Discrete Mathematics	Lecture	Written examination	Examination period			5	JTMS-13	Numerical Methods	Lecture	Written examination	Examination period	m	4	5	
CO-502 Module: Undergraduate Seminar																
CO-502-A	Undergraduate Seminar I	Seminar	Presentation	During the semester			3								2.5	
CO-502-B	Undergraduate Seminar II	Seminar					4								2.5	
CO-503 Module: Introductory Algebra								Unit: Language								
CO-503-A	Introductory Algebra	Lecture	Written examination	Examination period			5	German is default language. Native German speakers take modules in another offered language.								
CO-503-B	Tutorial Introductory Algebra	Tutorial					2.5	JTLA	Module: Language 3				m	3	2.5	
CO-504 Module: Analysis III								JTLA-xxx Language 3								
CO-504-A	Analysis III	Lecture	Written examination	Examination period			5	JTLA-xxx	Language 3	Seminar	Various	Various	me		2.5	
CO-504-B	Tutorial Analysis III	Tutorial					2.5									
Unit: Profile Mathematics or Minor Study Program								JTLA Module: Language 4								
								JTLA-xxx Language 4 Seminar Various Various me 4 2.5								
<i>Take 15 CP of Mathematics Specialization modules or substitute Specialization modules to pursue a minor</i>																
Year 3 - CAREER							45	Year 3 - CAREER							15	
CA-INT-900 Module: Internship / Startup and Career Skills								Unit: Big Questions								
CA-INT-900-0	Internship / Startup and Career Skills		Report / Business Plan	During the 5 th semester			4/5	15	German is default language. Native German speakers take modules in another offered language.							
CA-MATH-800 Module: Seminar / Thesis Mathematics								JTBQ Module: Big Questions								
CA-MATH-800-T	Thesis Math	Thesis	Thesis	15 th of May			12	JTBQ	Module: Big Questions	Lecture	Various	Various	me	5/6	10	
CA-MATH-800-S	Thesis Seminar Math	Seminar	Presentation	During the semester			3	<i>Take a total of 10 CP of Big Questions modules with each 2.5 or 5 CP</i>								
Unit: Specialization Mathematics								JTCL-CL-950 Module: Community Impact Project								
								JTCL-950 Community Impact Project Project Project Examination period m 5 5								
<i>Take a total of 15 CP of specialization modules.³</i>																
CA-S-MATH-802 / 801	Module Rotation: Complex Analysis (A) – Real Analysis (B)	Lecture	Written examination	Examination period			3/5	5								
CA-S-MATH-809 / 806	Module Rotation: Topology (A) – Foundations of Mathematical Physics (B)	Lecture	Written examination	Examination period			3/5	5								
CA-S-MATH-810 / 811	Module Rotation: Applied Dynamical Systems Lab (A) – Stochastic Methods Lab (B)	Lecture	Project	During the semester			3/5	7.5								
CA-S-MATH-807 / 805	Module Rotation: Partial Differential Equations (A) – Dynamical Systems (B)	Lecture	Written examination	Examination period			4/6	5								
CA-S-MATH-808 / 812	Module Rotation: Algebra (A) – Algebraic Topology (B)	Lecture	Written examination	Examination period			4/6	5								
CA-S-MATH-803 / 804	Module Rotation: Stochastic Processes (A) – Numerical Analysis (B)	Lecture	Written examination	Examination period			4/6	5								
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.

³ Each of the listed specialization modules is offered biennially; the letter A refers to odd-numbered calendar years, the letter B refers to even-numbered calendar years.