

Chemistry and Biotechnology BSc																				
Matriculation Fall 2020																				
Program-Specific Modules							Type	Assessment	Period	Status ¹	Sem.	CP	Jacobs Track Modules (General Education)							
Year 1 - CHOICE														Year 1 - CHOICE						
<i>Take the mandatory CHOICE modules listed below. This is a requirement for the CBT program.²</i>																				
Unit: Chemistry and Biotechnology (default minor)														Unit: Methods / Skills						
CH-120	Module: General and Inorganic Chemistry (default minor)						m	1	7.5					Module: Mathematical Concepts for the Sciences						
CH-120-A	General and Inorganic Chemistry						Lecture	Written examination	Examination period					JTMS-MAT-07	Lecture	Written examination	Examination period	m	1	5
CH-120-B	General and Inorganic Chemistry Lab						Lab	Lab report	During the semester											
CH-121	Module: Introduction to Biotechnology: Microbiology and Genetics (default minor)						m	2	7.5					Module: Physics for the Natural Sciences						
CH-121-A	Introduction to Biotechnology						Lecture	Written examination	Examination period					JTMS-SCI-17	Lecture	Written examination	Examination period	m	2	5
CH-121-B	Biotechnology Lab						Lab	Lab report	During the semester											
Unit: Mixed unit (BCCB and MCCB)														Unit: Language						
Module: General Biochemistry							m	1	7.5					German is default language. Native German speakers take modules in another offered language.						
CH-100-A	General Biochemistry						Lecture	Written examination	Examination period					JTLA-xxx	Module: Language 1			m	1	2.5
CH-100-B	General Biochemistry Lab						Lab	Lab report	During the semester					JTLA-xxx	Language 1			me		
CH-111	Module: General Organic Chemistry						m	2	7.5					Module: Language 2						
CH-111-A	General Organic Chemistry						Lecture	Written examination	Examination period					JTLA-xxx	Language 2			m	2	2.5
CH-111-B	General Organic Chemistry Lab						Lab	Lab report	During the semester											
Unit: CHOICE (own selection)														Unit: Language						
														JTLA-xxx	Language 2			me		
<i>Take two further CHOICE modules from those offered for all other study programs.²</i>																				
Year 2 - CORE														Year 2 - CORE						
<i>Take all modules listed below or replace mandatory elective ("me") CORE/Methods modules (15 CP) by suitable CORE modules from other study programs.²</i>																				
Unit: Inorganic and Physical Chemistry and Industrial Biotechnology														Unit: Methods / Skills						
CO-440	Module: Physical Chemistry (default minor)						m	3+4	5					Module: Analytical Methods						
CO-440-A	Physical Chemistry I						Lecture	Written examination / presentation	Examination period					JTMS-SCI-16	Lecture	Written examination	Examination period	m	3	5
CO-440-B	Physical Chemistry II						Lecture	Lab report	During the semester					JTMS-SCI-16	Analytical Methods			me		
CO-441	Module: Industrial Biotechnology (default minor)						m	3	5					Module: Plant Metabolites and Natural Products						
CO-441-A	Industrial Biotechnology						Lecture	Written examination	Examination period					JTMS-18	Lecture	Written examination	Examination period	me ³	4	5
CO-442	Module: Advanced Inorganic Chemistry (default minor)						m	4	5					Unit: Language						
CO-442-A	Advanced Inorganic Chemistry						Lecture	Written examination	Examination period					German is default language. Native German speakers take modules in another offered language.						
Unit: Organic and Analytical Chemistry (shared with MCCB)														Module: Language 3						
CO-423	Module: Advanced Organic Chemistry						m	3	5					JTLA-xxx						
CO-423-A	Advanced Organic Chemistry						Lecture	Written examination	Examination period					JTLA-xxx	Language 3			m	3	2.5
CO-443	Module: Scientific Software and Databanks						me³	4	5					JTLA-xxx						
CO-443-A	Scientific Software and Databanks						Seminar	Reports	During the semester					JTLA-xxx	Language 4			m	4	2.5
CO-424	Module: Advanced Organic and Analytical Chemistry Lab						m	3	5					JTLA-xxx						
CO-424-A	Advanced Organic Chemistry Lab						Lab	Lab report	During the semester					Language 4			me			
CO-424-B	Analytical Chemistry Lab						Lab	Lab report	During the semester											
Unit: Advanced Chemistry and Biotechnology																				
CO-444	Module: Bioprocess Engineering						m	4	5											
CO-444-A	Bioprocess Engineering						Lecture	Written examination	Examination period											
CO-445	Module: Advanced Biotechnology Lab						m¹	3	5											
CO-445-A	Advanced Biotechnology Lab						Lab	Lab Report	During the semester											
CO-446	Module: Inorganic and Physical Chemistry Lab						m	4	5											
CO-446-A	Inorganic Chemistry Lab						Lab	Lab Report	During the semester											
CO-446-B	Physical Chemistry Lab						Lab	Lab Report	During the semester											
Year 3 - CAREER														Year 3 - CAREER						
CA-INT-900														Unit: Big Questions						
Module: Internship / Startup and Career Skills							m	4/5	15					Module: Ethics in the Sciences and Technology						
CA-INT-9000	Internship / Startup and Career Skills						Report and Presentation (Business Plan)		During the 5 th semester					JTBQ-BQ-003	Lecture	Written examination / presentation	Examination period	m	5	5
CA-CBT-800	Module: Thesis / Seminar CBT						m	6	15					Module: Ethics in the Sciences and Technology						
CA-CBT-800-T	Thesis CBT						Thesis	Project/Thesis	15 th of May					JTBQ-003	Lecture	Written examination / presentation	Examination period	m		5
CA-CBT-800-S	Seminar CBT						Seminar	Presentation	During the semester					Take a total of 5 CP of further Big Questions modules (each 2.5 or 5 CP) as mandatory elective						
Unit: Specialization CBT (at least one specialization module from Biotechnology)														Unit: Community Impact Project						
15 CP of specialization modules							m		15					Module: Community Impact Project						
CA-S-CBT-801	Specialization Module:						me	5	5					JTCL-CI-950						
CA-S-CBT-801	Chemical and Pharmaceutical Technology						Lecture	Written examination	Examination period					JTCL-950	Project	Project	Examination period	m	5	5
CA-S-CBT-802	Specialization Module:						me	5	5											
CA-S-CBT-802	Organometallic Chemistry						Lecture	Oral examination	Examination period											
CA-S-CBT-804	Specialization Module:						me	5	5											
CA-S-CBT-804	Environmental Microbiology and Biotechnology						Lecture	Written examination	Examination period											
Specialization electives from MCCB, EES and BCCB (see study program handbook for further information)							me	5/6	5/7.5											
Total CP														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 Module can be replaced with a CORE module from another study program in order to pursue a minor