Study and Examination Plan

Chemistry and Biotechnology BSc
Matriculation Fall 2022

Program-Specific Modules	Type	Assessment	Period	Status[1]	Sem.	CP		Jacobs Track Modules (General Education)	Type	Assessment	Period	Status[1]	Sem.	CP
Year 1 - CHOICE						**45**								**15**
Take the mandatory CHOICE modules listed below. This is a requirement for the CBT program.[2]														
Unit: Chemistry and Biotechnology *(default minor)*								**Unit: Methods / Skills**						**10**
CH-120 **Module: General and Inorganic Chemistry** *(default minor)*				m	1	7.5		**JTMS-MAT-07** **Module: Mathematical Concepts for the Sciences**				m	1	5
CH-120-A	General and Inorganic Chemistry	Lecture	Written examination	Examination period			5		JTMS-07	Mathematical Concepts for the Sciences	Lecture	Written examination	Examination period			5
CH-120-B	General and Inorganic Chemistry Lab	Lab	Lab report	During the semester			2.5									
CH-121 **Module: Introduction to Biotechnology: Microbiology and Genetics** *(default minor)*				m	2	7.5		**JTMS-SCI-17** **Module: Physics for the Natural Sciences**				m	2	5
CH-121-A	Introduction to Biotechnology	Lecture	Written examination	Examination period			5		JTMS-17	Physics for the Natural Sciences	Lecture	Written examination	Examination period			5
CH-121-B	Biotechnology Lab	Lab	Written examination	Examination period			2.5									
Unit: Mixed unit (BCCB and MCCB)								**Unit: Language**				m		**5**
								German is default language. Native German speakers take modules in another offered language.						
CH-100 **Module: General Biochemistry**				m	1	7.5									
CH-100-A	General Biochemistry	Lecture	Written examination	Examination period			5		**JTLA-xxx** **Module: Language 1**				m	1	2.5
CH-100-B	General Biochemistry Lab	Lab	Lab report	During the semester			2.5		JTLA-xxx	Language 1	Seminar	Various	Various	me		
CH-111 **Module: General Organic Chemistry**				m	2	7.5		**JTLA-xxx** **Module: Language 2**				m	2	2.5
CH-111-A	General Organic Chemistry	Lecture	Written examination	Examination period			5		JTLA-xxx	Language 2	Seminar	Various	Various	me		
CH-111-B	General Organic Chemistry Lab	Lab	Lab report	During the semester			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**								**15**
Take all modules listed below or replace mandatory elective ("me") CORE/Methods modules (15 CP) by suitable CORE modules from other study programs.[2]														
Unit: Inorganic and Physical Chemistry and Industrial Biotechnology								**Unit: Methods / Skills**						**10**
CO-440 **Module: Physical Chemistry** *(default minor)*				m	3+4	5		**JTMS-SCI-16** **Module: Analytical Methods**				m	3	5
CO-440-A	Physical Chemistry	Lecture	Written examination / presentation	Examination period / During the semester		3+4			JTMS-16	Analytical Methods	Lecture	Written examination	Examination period			
CO-441 **Module: Industrial Biotechnology** *(default minor)*				m	3	5		JTMS-18	Plant Metabolites and Natural Products	Lecture	Written examination	Examination period			
CO-441-A	Industrial Biotechnology	Lecture	Written examination	Examination period												
CO-442 **Module: Advanced Inorganic Chemistry** *(default minor)*				m	4	5		**Unit: Language**				m		**5**
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)														
CO-423 **Module: Advanced Organic Chemistry**				m	3	5		**JTLA-xxx** **Module: Language 3**				m	3	2.5
CO-423-A	Advanced Organic Chemistry	Lecture	Written examination	Examination period					JTLA-xxx	Language 3	Seminar	Various	Various	me		
CO-443 **Module: Scientific Software and Databases**				me[3]	4	5		**JTLA-xxx** **Module: Language 4**				m	4	2.5
CO-443-A	Scientific Software and Databases	Seminar	Term Paper	During the semester					JTLA-xxx	Language 4	Seminar	Various	Various	me		
CO-424 **Module: Advanced Organic and Analytical Chemistry Lab**				m	3	5									
CO-424-A	Advanced Organic Chemistry Lab	Lab	Lab report	During the semester			2.5									
CO-424-B	Analytical Chemistry Lab	Lab	Lab report	During the semester			2.5									
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**				m[4]	3	5									
CO-445-A	Advanced Biotechnology Lab	Lab	Written examination	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			2.5									
CO-446-B	Physical Chemistry Lab	Lab	Project	During the semester			2.5									
Year 3 - CAREER						**45**								**15**
CA-INT-900 **Module: Internship / Startup and Career Skills**				m	4/5	15		**Unit: Big Questions**						**10**
CA-INT-9000	Internship / Startup and Career Skills		Report and Presentation (Business Plan)	During the 5th semester			15		**JTBQ-BQ-003** **Module: Ethics in the Sciences and Technology**				m	5	5
CA-CBT-800 **Module: Thesis / Seminar CBT**				m	6	15		JTBQ-003	Module: Ethics in the Sciences and Technology	Lecture	Written examination / presentation	Examination period	m		5
CA-CBT-800-T	Thesis CBT	Thesis	Project/Thesis	15th of May			12		*Take a total of 5 CP of further Big Questions modules (each 2.5 or 5 CP) as mandatory elective*	Various	Various	Various	me		5
CA-CBT-800-S	Seminar CBT	Seminar	Presentation	During the semester			3		**Unit: Community Impact Project**						**5**
Unit: Specialization CBT (at least one specialization module from Biotechnology)				m		15		**JTCI-CI-950** **Module: Community Impact Project**				m	5	5
l 15 CP of specialization modules								JTCI-950	Community Impact Project	Project	Project	Examination period			
CA-S-CBT-801 **Specialization Module:**				me	5	5									
CA-CBT-801	Chemical and Pharmaceutical Technology	Lecture	Written examination	Examination period												
CA-S-CBT-802 **Specialization Module:**				me	5	5									
CA-CBT-802	Organometallic Chemistry	Lecture	Oral examination	Examination period												
CA-S-CBT-804 **Specialization Module:**				me	6	5									
CA-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														**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

4 Module can be replaced with a CORE module from another study program in order to pursue a minor, but has to be taken in Year 3, replacing one specialization module