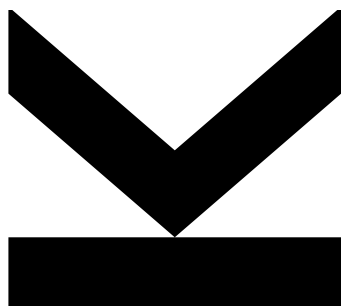


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CURRICULUM FOR THE
BACHELOR'S PROGRAM IN
BIOLOGICAL CHEMISTRY.



Joint Bachelor's Program
in cooperation with
Faculty of Science
University of South Bohemia in Budweis
Czech Republic
(in English)



**JOHANNES KEPLER
UNIVERSITY LINZ**

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§ 1 Qualification Profile

(1) The Bachelor's program in "Biological Chemistry" at the Faculty of Engineering and Natural Sciences (TNF) at the Johannes Kepler University Linz (JKU) and the Faculty of Science (PRF) University of South Bohemia (USB) in České Budějovice serves the scientific and application-oriented education of biologically oriented chemists. The focus is on all those areas of chemistry that are important for the functioning and for the analysis of biological systems, as well as the areas of biology, in which chemical interactions are of importance. To achieve the educational objectives, in comparison to the study programs of chemical engineering a strong depth of training in biochemistry and biology is necessary. Chemistry related emphasis of this study program is focused on general and (bio)inorganic, on analytical, on (bio)organic and on physical chemistry. In the field of biology, after a basic training, the focus is on molecular biology and bio-analytical issues. In-depth training in English as a technical language is provided through the use of English as the language of instructions. Students with sufficient knowledge of English can alternatively obtain language training in a language that is not their native language (eg: Czech for German-speakers with good English skills or German for Czech-speakers with good English skills).

(2) In terms of teaching competences the Engineering and Natural Sciences Faculty of the University of Linz (chemistry, biophysics, mathematics and computer science) and the Faculty of Science of the University of South Bohemia (focus in the biological disciplines including biochemistry) complement each others' expertise.

(3) Throughout the Bachelor's program the principle of learning through research and research-led teaching are realized, as far as possible. This is to ensure that, based on the necessary and properly selected factual knowledge the graduates of the curriculum of Biological Chemistry will be taught primarily problem-solving skills, which is a precondition to deal with complex interdisciplinary problems and to keep up with the rapid development of the discipline of Biological Chemistry.

(4) The Bachelor's program prepares students not only for those numerous application-oriented professional fields in which Biological Chemists will work today and increasingly in the future, but also for biological-chemical fundamental research at public and private research institutions, especially in international environments. Some examples are biomedical research, pharmaceutical research, biochemical and environmental analysis, medical and diagnostic laboratories, and biotechnology as well as public administration and international research organizations.

(5) The successful graduation in Biological Chemistry as Bachelor of Science (BSc, in Austria) and Bachelor (Bc, in the Czech Republic) enables the alumni to enter a qualified professional activity as a laboratory manager and project or research assistant. Due to the international nature of the course and the English language of instruction the graduates are particularly qualified for professions in a multi-national environment (EU institutions, international companies).

(6) During this Bachelor's program, in addition to technical expertise, social competence and ability to interact with managers and peers are acquired especially through teamwork in the practical courses in an international multilingual environment. The readiness for cross-border communication and further interdisciplinary training will be stimulated and developed. The Bachelor's program will thus also contribute to personality formation and development of social skills in order to prepare the graduates for cooperation in multinational interdisciplinary teams.

§ 2 Structure and Outline

(1) In accordance with § 54 (1) UG the Bachelor's program in "Biological Chemistry" belongs to the category of degrees in natural sciences.

(2) The Bachelor's program in "Biological Chemistry" is a joint study of the Johannes Kepler University (JKU) and the University of South Bohemia (USB). The Bachelor's program covers six semesters and consists of 180 ECTS points, which are distributed among the following subjects:

Subjects	ECTS
Mandatory Subjects	158,3
Bachelor's Theses	10,7
Bachelor's Examination	2
Free Electives	9
Total	180

(3) The courses taught at the Johannes Kepler University Linz are mainly in the first, second and 5th Semester of the bachelor's program. For organizational reasons deviations from the recommended semester schedule are possible.

(4) For Free Electives students have to pass examinations corresponding to 9 ECTS points, which can be chosen from any recognized national or international post-secondary educational institution. The Free Electives shall provide additional skills beyond the Bachelor's program in Biological Chemistry and can be taken anytime during the Bachelor's study.

(5) The recommended course of study is listed in the annex 1.

§ 3 Studies Introductory and Orientation Phase

(1) According to § 66 para. 1 UG the introductory and orientation phase consists of courses which give an overview of the fundamental contents and structure of the corresponding curriculum of studies. The introductory and orientation phase of the Bachelor's program in Biological Chemistry covers courses amounting to 8 ECTS points in total, which can be chosen out of the following list:

Code	Type of course	Name	ECTS winter term	ECTS summer term
663AACHGC1V17	VL	Introduction I to General Chemistry	1.5	
BCBPGVOGEC2	VO	Introduction II to General Chemistry	1.3	
BCBPAVOANCI	VO	Introduction to the Analytical Laboratory	1.3	
TCBPAVOAACH	VO	General and Inorganic Chemistry I	5.2	
663AACHCCA17	KV	Chemical Calculations	3.0	
BCBPAVOANCH	VO	Analytical Chemistry 1		3.9
663MOBIITGV13	VL	Introduction to Genetics		1.5
BCBPMVOMAT2	VO	Mathematics for Chemists 2		2.6

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continuation

Code	Type of course	Name	ECTS winter term	ECTS summer term
BCBPMVOPHY2	VO	Physics for Biological Chemistry 2		2.6
663MAPHPHYU16	UE	Exercises in Physics for Biological Chemistry		1.5

(2) Before completion of the introductory and orientation phase further courses to an extent of 22 ECTS points can be chosen out of the following list:

Code	Type of course	Name	ECTS winter term	ECTS summer term
TCBPAPRALCH	PR	Praktikum aus Allgemeiner Chemie (*)	4.8	
GS-TNE	KV	Gender Studies TNF - Einführung	3.0	
663KOETEC1K13	KV	English for Chemistry 1 (understanding)	3.2	
BCBPMVOMAT1	VO	Mathematics for Chemists 1	2.6	
BCBPMKVPHY1	KV	Physics for Biological Chemistry 1	1.6	
BCBPMUEMTH1	UE	Exercises in Mathematics for Chemists 1	3.2	
BCBPOVOORCH	VO	Organic Chemistry 1		5.2
BCBPMUEMTH2	UE	Exercises in Mathematics for Chemists 2		3.2
TCBPBPRANC1	PR	Praktikum aus Analytischer Chemie I (**)		8.4

(*) This course requires the successful completion of BCBPGVOGEC1 or 663AACHGC1V17.

(**) This course requires the successful completion of TCBPAPRALCH and BCBPAVOANCI.

§ 4 Mandatory Subjects/Modules

All courses and modules of the Mandatory Subjects have to be completed successfully:

Code	Name	ECTS
663AACH14	General and Inorganic Chemistry	15,8
663ANCH14	Analytical Chemistry	18,6
663BICH14	Biochemistry	31
663BIOL14	Biology	16
663INFO14	Informatics	9
663KOET14	Communication and Ethics	10,8
663MAPH16	Mathematics and Physics	23,3
663MOBI14	Molecular Biology	8,5
663ORCH16	Organic Chemistry	13,7

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Code	Name	ECTS
663PHCH14	Physical Chemistry	11,6

§ 5 Courses

(1) The names and the types of all courses of the Mandatory subjects taught at the Johannes Kepler University (JKU), as well as their ECTS points, their duration in hours per week, their codes, their registration requirements, and their admission procedures (in case of limited availability of places) are described in the study handbook of JKU (<http://www.jku.at/studienhandbuch>).

(2) The possible types of courses as well as the examination regulations are described in §§ 13 and 14 of the JKU statute (Section "Studienrecht").

(3) For courses taught at the University of South Bohemia, the regulations of the University of South Bohemia apply.

§ 6 Bachelor's Thesis

(1) Students of the Bachelor's program in "Biological Chemistry" must complete two Bachelor's theses according to § 80 UG in the course SE Bachelor's Seminar Biological Chemistry JKU (663BAARBSBS13) und SE Biological Chemistry - Bachelor's Seminar (ANTBATHBICS14), where in each case one bachelor's thesis at the Johannes Kepler University and one bachelor's thesis at the University of South Bohemian must be performed. At least one of the bachelor's theses should involve practical work on a research project.

(2) The Bachelor's theses can be completed starting with the 4th Semester and the bachelor's theses have to be written and presented in English.

(3) The Bachelor's thesis submitted at the Johannes Kepler University will be graded in combination with the Bachelor's Seminar by the teachers of this course. Examination regulations of the University of South Bohemia apply for the Bachelor's thesis submitted at the University of South Bohemia.

(4) The Curricular Committee for Biological Chemistry may specify guidelines for the formal structure of a Bachelor's thesis.

(5) The topics of the Bachelor's theses have to be documented in the certificate.

§ 7 Examination Regulations

(1) The regulations for subject examinations and course examinations performed at JKU are described in the study handbook of JKU (<http://www.jku.at/studienhandbuch>).

(2) The Examination regulations of the University of South Bohemia apply for examinations at the University of South Bohemia.

(3) Students of this curriculum are eligible for examinations of courses at the partner university, even if they did not attend courses at this university during the current semester.

(4) The Bachelor's program in "Biological Chemistry" is concluded by a Bachelor's Examination.

(5) The Bachelor's Examination consists of two parts: The first part of the Bachelor's Examination is the successful completion of the mandatory subjects according to § 4.

(6) The second part of the Bachelor's Examination (2 ECTS) is a final state exam at the University of South Bohemia according to its regulations there. Prior to the admission to the second part of the Bachelor's Examination, students must successfully complete the first part of the Bachelor's Examination, the Bachelor's Theses, and the Free Electives.

(7) Following conversion is used to translate grades from the University of South Bohemia (USB):

Grades at USB	Grades at JKU
excellent 1	sehr gut 1
excellent minus 1–	sehr gut 1
very good 2	gut 2
very good minus 2–	befriedigend 3
good 3	genügend 4
unsatisfactory 4	nicht genügend 5
successful participation	mit Erfolg teilgenommen
unsuccessful participation	ohne Erfolg teilgenommen

(8) Following conversion is used to translate grades from the Johannes Kepler University Linz (JKU):

Grades at JKU	Grades at USB
sehr gut 1	excellent 1
gut 2	very good 2
befriedigend 3	very good minus 2–
genügend 4	good 3
nicht genügend 5	unsatisfactory 4
mit Erfolg teilgenommen	successful participation
ohne Erfolg teilgenommen	unsuccessful participation

(9) For the purpose of assigning grades in the certificate, above conversion of grades of the University of South Bohemia (para. 7) will be used for subjects completed at the University of South Bohemia (USB).

§ 8 Academic Degree

(1) Graduates of the Bachelor's program in "Biological Chemistry" are awarded the academic degree „Bachelor of Science“, abbreviated „BSc“ oder „BSc (JKU)“ at the Johannes Kepler University Linz and the academic degree "Bachelor", abbreviated „Bc“ at the University of South Bohemia.

(2) The certificate of the Austrian academic degree is issued in German and in English translation.

(3) The certificate has to express that the Bachelor's program in "Biological Chemistry" is a joint study of the Johannes Kepler University and the University of South Bohemia.

§ 9 Legal Validity

(1) This curriculum comes into effect on October 1, 2014.

(2) *[note: repealed by the official newsletter of the Johannes Kepler University on June 10th, 2015, 26th piece, item 192.]*

(3) The curriculum of the Bachelor's program in "Biological Chemistry" in the version published in the official newsletter of Johannes Kepler University Linz on June 26, 2013, 25th piece, item 173 expires by the end of September 30th, 2014.

(4) § 3, annex 1 and the repeal of § 9 para. 2 as published in the official newsletter of the Johannes Kepler University Linz on June 10th, 2015, 26th piece, item 192 will take effect on October 1st, 2015. Students, who have been admitted to this bachelor's program before the winter term 2015/16 and have not completed the introduction and orientation phase yet, are entitled to finish it until September 30th, 2016 according to the rules in force till September 30th, 2015.

(5) § 3 para. 3, § 4 and annex 1 as published in the official newsletter of the Johannes Kepler University Linz on June 27th, 2016, 28th piece, item 244 will take effect on October 1st, 2016.

(6) § 3 as published in the official newsletter of the Johannes Kepler University Linz on June 23th, 2017, 33th piece, item 251 will take effect on October 1st, 2017. Students, who have been admitted to this bachelor's program before the winter term 2017/18 and have not completed the introduction and orientation phase yet, are entitled to finish it until September 30th, 2018 according to the rules in force till September 30th, 2017.

§ 10 Transitional Arrangements

(1) For students who have passed examinations within the curriculum of the Bachelor's program in "Biological Chemistry" in a previous version, the equivalences listed in the study handbook of JKU (<http://www.jku.at/studienhandbuch>) apply.

(2) In addition to the equivalences given in the study handbook of JKU, following equivalences are effective:

Courses in the Bachelor's program Biological Chemistry 2011	equivalent courses in the Bachelor's program Biological Chemistry 2014
BCBPVBOBINF: VO Bioinformatik (2,6 ECTS)	875BIN1ASPV12: VL Sequence analysis and phylogenetics (3 ECTS)
BCBPCKVENS2: KV English for Scientists 2 (understanding) (1,6 ECTS)	663MOBITGV13: VL Introduction to Genetics (1,5 ECTS)

Subjects in the Bachelor's program Biological Chemistry 2011	equivalent subjects in the Bachelor's program Biological Chemistry 2014
Biochemie (31 ECTS)	663BICH14: Biochemistry (31 ECTS)
Biologisch-Chemisches Wahlfach (6 ECTS)	663BCWF14: Biological Chemical Elective subject (4 ECTS)

Annex 1: Global map of study subjects - Bachelor's Program "Biological Chemistry" (2016)

1 st Semester (WS)		2 nd Semester (SS)		3 rd Semester (WS)		4 th Semester (SS)		5 th Semester (WS)		6 th Semester (SS)			
JKU Linz		JKU Linz		USB Budweis		USB Budweis		JKU Linz		JKU Linz/USB Budweis			
Subject/Course	ECTS	Subject/Course	ECTS	Module	ECTS	Subject/Module	ECTS	Subject/Course	ECTS	Subject/Module/Course	ECTS		
General and Inorganic Chemistry Introduction I to General Chemistry Introduction II to General Chemistry Chemical Calculations Praktikum aus Allgemeiner Chemie General and Inorganic Chemistry I	15,8	Analytical Chemistry Analytical Chemistry 1 Praktium aus Analytischer Chemie I	12,3	Biochemistry 1	4	Biochemistry 2	4	Analytical Chemistry Instrumental Analysis Laboratory of Instrumental Analysis	5	Mathematics and Physics Biophysics Laboratory	3		
				Biochemistry Laboratory 1	3	Biochemistry Laboratory 2	5						
				Environmental Chemistry	2			WHO/EU laboratory procedure administration	3	Informatics Sequence analysis and phylogenetics Exercises in Bioinformatics	6	Physical Chemistry Laboratory in Physical Chemistry 1	4,8
		Molecular Biology Introduction to Genetics	1,5	Environmental Chemistry Laboratory	3								
Analytical Chemistry Introduction to the Analytical Laboratory	1,3	Mathematics and Physics Mathematics for Chemists 2 Exercises in Mathematics for Chemists 2 Physics für Biological Chemistry 2 Exercises in Physics for Biological Chemistry	9,9	Biostatistics	5	Biomolecular NMR spectroscopy	3	Communication and Ethics English for Chemistry 2 (writing & presenting)	1,6	Bachelor's Thesis Bachelor's Seminar Biological Chemistry JKU (Including Bachelor Thesis) Biological Chemistry - Bachelor's Seminar (USB Budweis)	10,7		
Communication and Ethics English for Chemistry 1 (understanding)	3,2					Biology of Microorganisms	5					Biology of Plants	3
				Mathematics and Physics Mathematics for Chemists 1 Exercises in Mathematics for Chemists 1 Physics für Biological Chemistry 1	7,4			Molecular Biology and Genetics	3			Methods in Molecular Biology	4
Gender Studies (Communication and Ethics) Gender Studies TNF - Einführung	3					Academic Writing I	3					Introduction to Bioinformatics	3
30,7		28,9		28		32		30,9		29,5			

Total

180