

Study program: **BIOTa-BcD18 - biotechnology - (bachelor I. st., full-time form)**

Study field: **4. - biotechnology**

Study part

Compulsory subjects

Block - Compulsory subjects - 1. year

The student must obtain 10 credits for the winter semester are required for advancement to the summer semester, 40 credits for advancement to the next year of the study.

Abbreviation	Name	Act.	Credit	Range	Ends.	Year	Sem.	Sign	Prerequisite	Teacher
KBT/bed300/21	Introduction to Biotechnology		3	2P	S	1	Z	P		
KBT/bed301/21	Basics Biology for Biotechnologists		5	2P + 2S	S	1	Z	P		
KBT/bed302/21	Laboratory Exercise in Biology		4	4L	S	1	Z	P		
KCH/bed303/21	General Chemistry		5	2P + 2S	S	1	Z			
KCH/bed304/21	Laboratory Exercise in General Chemistry		4	4L	S	1	Z			
KBT/bed305/21	Calculations Seminar I		4	2S	S	1	Z			
KBT/bed306/21	Fundamentals of Biotechnological Processes and Equipment		3	2P	S	1	Z	P		
KOJP/bed307/21	Professional Communication in English I		2	2S	S	1	Z			
KBT/bed308/21	Advanced Biology for Biotechnologists		5	2P + 2S	S	1	L	P		

KBT/bed309/21	Laboratory Exercise in Advanced Biology		4	4L	S	1	L	P		
KBT/bed310/21	Information and Communication Technologies		3	2S	S	1	L			
KCH/bed311/21	Inorganic Chemistry		3	3P	S	1	L			
KCH/bed312/21	Laboratory Exercise in Inorganic Chemistry		4	4L	S	1	L			
KBT/bed313/21	Calculations Seminar II		4	2S	S	1	L			
KBF/bed314/21	Introduction to Physics		5	2P + 2S	S	1	L			
KOJP/bed315/21	Professional Communication in English II		2	2S	S	1	L			

Block - Compulsory subjects - 2. year

The student must obtain 40 credits are required for advancement to the next year of the study.

Abbreviation	Name	Act.	Credit	Range	Ends.	Year	Sem.	Sign	Prerequisite	Teacher
KER/bed318/21	Environmental Biotechnology		3	2P + 1S	S	2	Z			
KBT/bed319/21	Balance Systems in Biotechnology Processes		3	2S	S	2	Z	P		
KBT/bed320/21	Principles of Molecular Biology		3	2P	S	2	Z	P		
KBT/bed321/21	Laboratory Exercise in Molecular Biology		4	5L	S	2	Z	P		
KBF/bed322/21	Biophysical Chemistry		5	2P + 3S	S	2	Z			
KBT/bed323/21	Biochemistry		3	2P	S	2	Z			
KBT/bed324/21	Laboratory Exercise in Biochemistry		5	5L	S	2	Z			
KBT/bed325/21	Agricultural Biotechnology		3	2P	S	2	L	P		

KB/bed326/21	Fundamentals of Microbiology		3	2P + 1S	S	2	L			
KBT/bed327/21	Laboratory Exercise in Microbiology		5	5L	S	2	L			
KCH/bed328/21	Organic Chemistry		4	2P + 1S	S	2	L			
KCH/bed329/21	Laboratory Exercise in Organic Chemistry		4	4L	S	2	L			
KBT/bed330/21	Microbial Biotechnology		3	2P	S	2	L	P		
KBT/bed331/21	Semester Project		4	3S	S	2	L			

Block - Compulsory subjects - 3. year

Abbreviation	Name	Act.	Credit	Range	Ends.	Year	Sem.	Sign	Prerequisite	Teacher
KBT/bed345/21	Enzymology		3	2P	S	3	Z	P		
KBT/bed346/21	Laboratory Exercise in Enzymology		4	5L	S	3	Z	P		
KBT/bed347/21	Separation Methods		3	2P + 1S	S	3	Z			
KBT/bed348/21	Laboratory Exercise on Separation Methods		5	5L	S	3	Z			
KBT/bed349/21	Methods and Techniques of Gene Manipulation		3	2P	S	3	Z	P		
KB/bed350/21	Molecular Biology Databases		3	1P + 1S	S	3	Z			
KBT/bed351/21	Theory and Methodology of the Bachelor Thesis		5	8S	S	3	Z		KBT/bed331/21	
KBT/bed352/21	Enzyme Biotechnology		3	2P	S	3	L	P		
KBT/bed353/21	Computer-aided Molecular Design		3	3S	S	3	L			
KBT/bed354/21	Regulation and Biosafety of Biotechnology		3	2P	S	3	L	P		
KBT/bed355/21	Bachelor Project		4	8S	S	3	L	P	KBT/bed351/21	

KBT/bed356/21	Experimental Activity for Bachelor Thesis		5	10S	S	3	L	P		
The student must obtain at least 168 credits without subjects of the state exam to complete the study.										

Compulsory optional subjects

Blok - Compulsory optional subjects - 2. year										
From the compulsory optional subjects, the student must choose at least two subjects in the winter semester and at least two subjects in the summer semester.										
Abbreviation	Name	Act.	Credit	Range	Ends.	Year	Sem.	Sign	Prerequisite	Teacher
KB/bed332/21	Genetics		2	2P + 1S	S	2	Z			
KER/bed333/21	Environmental Toxicology		2	2P + 1S	S	2	Z			
KER/bed334/21	Introduction to Radioecology		2	2P + 1S	S	2	Z			
KAI/bed335/21	Mathematics		2	2P + 2S	S	2	Z			
KOJP/bed336/21	Professional Communication in English III		2	2S	S	2	Z			
KBT/bed337/21	Animal Biology		2	2P	S	2	L			
KER/bed338/21	Renewable Energy		2	2P	S	2	L			
KB/bed339/21	Plant Physiology		2	2P	S	2	L			
KER/bed340/21	Sustainable Development		2	3P	S	2	L			
KAI/bed341/21	Basics Statistics		2	2P + 2S	S	2	L			
KOJP/bed342/21	Professional Communication in English IV		2	2S	S	2	L			

Credits earned in both the optional subjects and the compulsory optional subjects are counted towards progression to the summer semester; credits earned in both the optional subjects and the compulsory optional subjects are counted towards progression to the next part of the program of study.

Block - Compulsory elective subjects - 3. year

From the compulsory optional subjects, the student must choose at least two subjects in the winter semester.

Abbreviation	Name	Act.	Credit	Range	Ends.	Year	Sem.	Sign	Prerequisite	Teacher
KB/bed357/21	Evolutionary Biology		2	2P + 1S	S	3	Z			
KB/bed358/21	General Virology		2	2P + 1S	S	3	Z			
KER/bed359/21	Waste Management		2	2P	S	3	Z			
KER/bed360/21	Environmental Monitoring and Bioindicators		2	2P	S	3	Z			
KCH/bed361/21	Natural Drugs		2	2P + 1S	S	3	Z			
KCH/bed362/21	Organic Chemistry II		2	2P + 2S	S	3	Z			
KBF/bed363/21	Biophysical Chemistry II		2	2P + 2S	S	3	Z			

Credits earned in both the optional subjects and the compulsory optional subjects are counted towards progression to the summer semester; credits earned in both the optional subjects and the compulsory optional subjects are counted towards progression to the next part of the program of study.

Optional subjects

Block - Optional subjects - 1. year

The student may or may not choose from the optional subjects.

Abbreviation	Name	Act.	Credit	Range	Ends.	Year	Sem.	Sign	Prerequisite	Teacher
KB/bd316/21	Sport Activities I		2	2C	S	1	Z			
KB/bd317/21	Sport Activities II		2	2C	S	1	L			

Block - Optional subjects - 2. year

The student may or may not choose from the optional subjects.

Abbreviation	Name	Act.	Credit	Range	Ends.	Year	Sem.	Sign	Prerequisite	Teacher
KB/bd343/21	Sport Activities III		2	2C	S	2	Z			
KB/bd344/21	Sport Activities IV		2	2C	S	2	L			

Blok - Optional subjects - 3. year

The student may or may not choose from the optional subjects.

Abbreviation	Name	Act.	Credit	Range	Ends.	Year	Sem.	Sign	Prerequisite	Teacher
KB/bd364/21	Sport Activities V		2	2C	S	3	Z			
KB/bd365/21	Sport Activities VI		2	2C	S	3	L			

State exams

Compulsory subjects

Block - State exam

The student must obtain at least 168 credits without subjects of the state exam to complete the study.

Abbreviation	Name	Act.	Credit	Range	Ends.	Year	Sem.	Sign	Prerequisite	Teacher
KBT/bed366/21	Bachelor Thesis		6		OB					
KBT/bed367/21	Stat Exam in Biotechnology		6		SS					

To successfully complete the bachelor's degree, it is necessary to obtain 180 credits.

There may be additional signs for subjects in study programs

! - the subject is not implemented in the given academic year

+ - the subject is not implemented, possibly from the next academic year

- the subject is being implemented for the last time

Sign of the subject in the study plan:

P - profile subject of the study program