



## DEPARTMENT OF BIOLOGY AND ECOLOGY

# UNDERGRADUATE ACADEMIC STUDIES BIOLOGY

for obtaining the first higher education degree and professional title

## **Bachelor of Biology**

# THE STRUCTURE OF THE STUDY PROGRAM

## TITLE AND AIMS OF THE STUDY PROGRAM

Undergraduate academic studies of Biology last four years (8 semesters, 240 ECTS). The aim of the study program is structured for education and training experts for vocational and scientific work in different fields of biology. Upon completion of this Undergraduate academic studies of Biology student acquires the professional title:

*Bachelor of Biology (Bachelor with Honours)*

Upon completion of Undergraduate academic studies of Biology, the experts are formed, capable to work as associates in areas where the knowledge from the field of biology is applicable.

## ADMISSION REQUIREMENTS FOR THE STUDY PROGRAM

Application for studies can submit persons with completed secondary education in four year duration. Persons who apply for admission to the first year of the undergraduate academic studies take an entrance exam in Biology course.

## PURPOSE OF THE STUDY PROGRAM

The purpose of Undergraduate academic studies of Biology is to educate experts for a variety of jobs that require knowledge of biology and the ability to apply current knowledge in this field, as well as preparing students for further education. Respecting the importance of biology and its representation in all spheres of life and work, experts of this profile have socially justified and useful skills.

Study program has clearly defined and identifiable purposes and social roles (studying outcomes):

- education of expert, graduate biologist, capable to perform and manage a variety of jobs and policy-making in areas where the knowledge in biology is applicable: in scientific research laboratories, botanical gardens, natural history museums, national parks and other protected areas, accredited laboratories for quality control , biotechnological and development laboratories, institutes for monitoring and protecting the environment, as well as in the fields of industry, agriculture, medicine, etc.,
- education of experts for management and policy-making in the institutions that deal with monitoring the environment condition,
- training of experts for transfer of the knowledge in the field of biology and ecology and motivating young people,
- preparation for further education, whether it is the knowledge in the field of education or research area of biological disciplines,
- encouraging the development of biology and ecology in all,
- encouraging the incorporation of environmental awareness in all spheres of life and work.

## APPENDIX

A list of obligatory and elective courses per semester, weekly number of classes of lectures, exercises and individual work, ECTS for each subject at the Undergraduate academic studies of Biology (240 ECTS).

### Labels used:

**C** - course code which is set at the level of institutions,  
**S** - semester of the course.

Type of the course: **AG** – Academic general educational,  
**TM** – Theoretical and methodological,  
**SP** – Scientific professional,  
**PA** – Professional applicative.

Status of the course: **O** – obligatory,  
**EB** – elective block.

Classes of active teaching: **L** – lectures,  
**E** – exercises,  
**SR** – Study and Research,  
**OFT** – other forms of teaching (laboratory exercises, seminars, etc.,  
depending on the specifics of the study program).

## A distribution of the study program courses into semesters and academic years

### UNDERGRADUATE ACADEMIC STUDIES **BIOLOGY**

	C	Course Title	S	Course Type	Course Status	Active teaching			Other classes	ECTS
						L	E	OFT		
<b>FIRST YEAR</b>										
1.	C157	Basics of Chemistry	1	TM	O	3	0	3		8
2.	B101	Cell Biology	1	TM	O	3	2	0		7
3.	BE101	Plant Morphology	1	SP	O	3	3	0		8
4.	B103	Invertebrate Zoology 1	1	SP	O	3	3	0		8
5.	B104	Algology	2	SP	O	2	2	0		6
6.	B105	Invertebrate Zoology 2	2	SP	O	3	3	0		8
7.	BE113	Statistics and Computing	2	AG	O	2	2	0		5
8.	P199	Biophysics	2	TM	O	2	0	2		5
9.		Courses of elective block 1 (one course)	2		EB	2	1	0		5
<b>Total classes (L/E +OFT/other classes) and credits in year</b>						<b>23</b>	<b>16</b>	<b>5</b>		<b>60</b>
<b>Total classes of active teaching in year</b>						<b>660</b>				
<b>SECOND YEAR</b>										
10.	B106	Mycology	3	SP	O	3	2	0		7
11.	BE102	Biochemistry	3	SP	O	3	0	2		7
12.	B107	Morphology and Systematics of Chordates	3	SP	O	3	3	0		8
13.	B108	Systematics of Vascular plants 1	3	PA	O	3	2	0		7
14.	B109	Biology of Prokaryotes	4	TM	O	3	0	2		6
15.	B110	Systematics of Vascular plants 2	4	PA	O	3	3	0		7
16.	B111	Mammals	4	PA	O	3	2	0		6
17.	B112	Basics of Molecular Biology	4	SP	O	3	2	0		6
18.		Courses of elective block 2 (one course)	4		EB	2	2	0		6
<b>Total classes (L/E +OFT/other classes) and credits in year</b>						<b>26</b>	<b>16</b>	<b>4</b>		<b>60</b>
<b>Total classes of active teaching in year</b>						<b>690</b>				
<b>THIRD YEAR</b>										
19.	B113	Genetics	5	SP	O	3	2	0		6
20.	B114	General Physiology	5	SP	O	3	0	2		6
21.	B115	Plant Physiology	5	SP	O	3	0	2		6
22.	B116	Animal development	5	SP	O	3	2	0		6
23.		Courses of elective block 3 (one course)	5		EB	2	0	2		6
24.	B117	Plant Ecology	6	PA	O	2	2	0		6
25.	B118	Animal Ecology	6	PA	O	2	2	0		6
26.	B119	Basics of Hydrobiology	6	PA	O	2	2	0		6
27.		Courses of elective block 4 (one course)	6		EB	2	0(2)*	0		4
28.		Courses of elective block 5 (one course)	6		EB	2	2	0		5
29.	B120	Field lessons	6	PA	O	1	0	3		3
<b>Total classes (L/E +OFT/other classes) and credits in year</b>						<b>25</b>	<b>12(14)</b>	<b>9</b>		<b>60</b>
<b>Total classes of active teaching in year</b>						<b>690(710)</b>				

<b>FOURTH YEAR</b>										
30.	B121	Human and Environment	7	SP	O	3	3	0		8
31.	B122	Basics of Biotechnology	7	TM	O	3	2	0		6
32.	BE103	Human Ecology and Genetics	7	TM	O	2	2	0		6
33.		Courses of elective block 6 (one course)	7		EB	2	0	0		4
34.		Courses of elective block 7 (one course)	7		EB	2	2	0		6
35.	B123	Evolutionary Biology	8	AG	O	3	2	0		6
36.	B124	Comparative Physiology	8	SP	O	3	0	2		6
37.	B125	History and Philosophy of Biology	8	AG	O	2	0	0		3
38-39.		Courses of elective block 8 (two courses)	8		EB	4	4(2)	0(2)		10
40.		Courses of elective block 9 (one course)	8		EB	2	2	0		5
<b>Total classes (L/E +OFT/other classes) and credits in year</b>						<b>26</b>	<b>19(17)</b>	<b>2(4)</b>		<b>60</b>
<b>Total classes of active teaching in year</b>						<b>705</b>				
<b>Total classes of active teaching, other classes and credits for all study years</b>						<b>2475</b>				
						<b>240 ECTS</b>				

\*Number of classes of active teaching depending on the electivity

## The list of elective courses in the study program

### UNDERGRADUATE ACADEMIC STUDIES **BIOLOGY**

	C	Course Title	Course Type	Course Status	Active teaching				ECTS
					L	E	OFT	SR	
Courses of elective block 1									
1.	K101	English 1 (lower course)	AG	EB	2	1	0		5
2.	K105	English 2 (higher course)	AG	EB	2	1	0		5
Courses of elective block 2									
1.	BE104	Entomology	PA	EB	2	2	0		6
2.	BE105	Macromycetes	PA	EB	2	2	0		6
Courses of elective block 3									
1.	B126	Cyto-histological Methods	TM	EB	2	0	2		6
2.	B127	Experimental Biochemistry	PA	EB	2	0	2		6
Courses of elective block 4									
1.	K110	Pedagogy	AG	EB	2	0	0		4
2.	BE106	Medicinal plants and sustainable use	PA	EB	2	2	0		4
Courses of elective block 5									
1.	B133	Cytogenetics	PA	EB	2	2	0		5
2.	BE107	Endemic flora and vegetation of the Balkan Peninsula	PA	EB	2	2	0		5
Courses of elective block 6									
1.	K109	Psychology	AG	EB	2	0	0		4
2.	BE108	Bioethics	AG	EB	2	0	0		4
Courses of elective block 7									
1.	B129	Culture of plant cells and tissues	TM	EB	2	2	0		6
2.	B130	Pedofauna	PA	EB	2	2	0		6
3.	BE109	Adaptation mechanisms of plants	PA	EB	2	2	0		6
Courses of elective block 8									
1.	BE110	Biodiversity of Serbia and Balkan Peninsula	SP	EB	2	2	0		5
2.	B131	Fauna of freshwater ecosystems	PA	EB	2	2	0		5
3.	B132	Advanced course of Botany	SP	EB	2	2	0		5
4.	BE111	Phytochemistry	PA	EB	2	0	2		5
Courses of elective block 9									
1.	BE112	Protected areas of Serbia	TM	EB	2	2	0		5
2.	B128	Human Biology	AG	EB	2	2	0		5