

PROGRAM OF BSC LEVEL STUDIES OF BIOTECHNOLOGY

L - lecture, c – practices, seminars, laboratories

SEMESTER	No.	Course / module	ECTS	Exam (E) or completion (z)	Hours					Number of class hours											
										1 st year				2 nd year				3 rd year			
					In total	Lecture (L)	Practices (c)	Seminar (c)	Laboratories (c)	1st sem.		2nd sem.		3rd sem.		4th sem.		5th sem.		6th sem.	
										15 weeks		15 weeks		15 weeks		15 weeks		15 weeks		15 weeks	
L	c	L	c	L	c	L	c	L	c	L	c	L	c	L	c	L	c				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
I	1.	Plant Biology	3 (2/1)	E/z	30	15	–	–	15	15	15	–	–	–	–	–	–	–	–	–	–
	2.	Animal Biology	3 (2/1)	E/z	30	15	–	–	15	15	15	–	–	–	–	–	–	–	–	–	–
	3.	General and Inorganic Chemistry	5 (3/2)	E/z	60	30	–	–	30	30	30	–	–	–	–	–	–	–	–	–	–
	4.	Mathematics	5 (3/2)	E/z	60	30	30	–	–	30	30	–	–	–	–	–	–	–	–	–	–
	5.	Introduction to Biochemical Calculations	3	z	30	–	30	–	–	–	30	–	–	–	–	–	–	–	–	–	–
	6.	Computer Sciences	4 (2/2)	z	45	15	30	–	–	15	30	–	–	–	–	–	–	–	–	–	–
	7.	English in Life Sciences	2	z	15	–	–	15	–	–	15	–	–	–	–	–	–	–	–	–	–
	8.	Basic Laboratory Tech.	2	z	15	–	–	–	15	–	15	–	–	–	–	–	–	–	–	–	–
	9.	Initial training in the field of health and safety and fire protection (e-learning)	–	z	4	–	4	–	–	–	4	–	–	–	–	–	–	–	–	–	–
	10.	Polish (A2) / Foreign language	–*	z*	60	–	60	–	–	–	60	–	–	–	–	–	–	–	–	–	–
27 ECTS / 349 h; 4 exams																					
II	11.	Physicochemical Methods in Biology	3	E	20	20	–	–	–	–	–	20	–	–	–	–	–	–	–	–	
	12.	Structure and Function of Biomacromolecules	10 (6/4)	E/z	120	45	–	–	75	–	–	45	75	–	–	–	–	–	–	–	
	13.	Organic Chemistry	8 (5/3)	E/z	90	45	–	–	45	–	–	45	45	–	–	–	–	–	–	–	
	14.	Biochemical Calculations	4	z	45	–	45	–	–	–	–	–	45	–	–	–	–	–	–	–	
	15.	Introduction to Statistics	6 (4/2)	E/z	60	30	30	–	–	–	–	30	30	–	–	–	–	–	–	–	
	16.	Polish (A2) / Foreign language	–*	z*	60	–	60	–	–	–	–	–	60	–	–	–	–	–	–	–	
	17.	Sport activities**	–	z	30	–	30	–	–	–	–	–	30	–	–	–	–	–	–	–	
31 ECTS / 425 h; 4 exams																					

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
III	18.	Metabolism of Proteins, Carbohydrates, Nucleotides and Lipids	4	E	40	40	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-
	19.	Metabolism of Proteins and Carbohydrates	4	z	60	-	-	-	60	-	-	-	-	-	60	-	-	-	-	-	-
	20.	Metabolism of Lipids	2	z	30	-	-	-	30	-	-	-	-	-	30	-	-	-	-	-	-
	21.	Metabolism of Nucleic Acids	3	E	20	20	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-
	22.	Biophysical Chemistry	6 (4/2)	E/z	60	30	-	-	30	-	-	-	-	30	30	-	-	-	-	-	-
	23.	Genetics	5 (3/2)	E/z	60	30	-	-	30	-	-	-	-	30	30	-	-	-	-	-	-
	24.	Elective lecture 1.	2	z	15	15	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-
	25.	Polish (A2) / Foreign language	-*	z*	60	-	60	-	-	-	-	-	-	-	60	-	-	-	-	-	-
	26.	Sport activities**	-	z	30	-	-	-	30	-	-	-	-	-	30	-	-	-	-	-	-
26 ECTS / 375 h; 4 exams																					
IV	27.	Microbiology	5 (3/2)	E/z	60	30	-	-	30	-	-	-	-	-	-	30	30	-	-	-	-
	28.	Animal Physiology	3	E	30	30	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-
	29.	Plant Physiology	3	E	30	30	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-
	30.	Techniques in Molecular Biology	4 (2/2)	z	65	20	-	-	45	-	-	-	-	-	-	20	45	-	-	-	-
	31.	Biophysics	5 (3/2)	E/z	60	30	-	-	30	-	-	-	-	-	-	30	30	-	-	-	-
	32.	Cell Culture Techniques (elective)#	4 (2/2)	z	45	15	-	-	30	-	-	-	-	-	-	15	30	-	-	-	-
	33.	Bionformatics	4 (2/2)	z	45	15	30	-	-	-	-	-	-	-	-	15	30	-	-	-	-
	34.	Seminar 1. (elective)	2	z	15	-	-	15	-	-	-	-	-	-	-	-	15	-	-	-	-
	35.	Elective lecture 2.	2	z	15	15	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-
32 ECTS / 365 h; 4 exams																					

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
V	36.	Molecular Organization of the Cell	7 (4/3)	E/z	80	30	-	-	50	-	-	-	-	-	-	-	-	30	50	-	-	
	37.	Biotechnology (elective)##	7 (4/3)	E/z	75	30	-	-	45	-	-	-	-	-	-	-	-	30	45	-	-	
	38.	Preparative Biochemistry	4 (2/2)	E/z	45	15	-	-	30	-	-	-	-	-	-	-	-	15	30	-	-	
	39.	Elective lecture 3.	2	z	15	15	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	
	40.	Elective lecture 4.	2	z	15	15	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	
	41.	Bioethics	1	z	15	15	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	
	42.	Seminar 2. (elective)	4	z	30	-	-	30	-	-	-	-	-	-	-	-	-	-	30	-	-	
27 ECTS / 275 h; 3 exams																						
VI	43.	Bioprocess Engineering	3 (2/1)	E/z	45	30	-	-	15	-	-	-	-	-	-	-	-	-	-	30	15	
	44.	Enzymology	5 (3/2)	E/z	75	30	-	-	45	-	-	-	-	-	-	-	-	-	-	30	45	
	45.	Economics	4 (2/2)	z	45	30	15	-	-	-	-	-	-	-	-	-	-	-	-	30	15	
	46.	Immunology	5 (3/2)	E/z	60	30	-	-	30	-	-	-	-	-	-	-	-	-	-	30	30	
	47.	Intellectual property law	1	z	15	15	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	
	48.	BSc seminar (elective)####	12	z	5	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	5
	30 ECTS / 245 h; 3 exams																					
	49.	Polish (A2) / Foreign language	12	z	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
185 ECTS; 2034 h																						

- Elective classes
- Classes in the areas of humanities and social sciences
- Foreign language classes
- Sport classes

* Polish language course is obligatory for foreigners. Upon successful completion and the exam confirming language proficiency at A2 level, 12 ECTS points are awarded. Students are allowed to take the exam earlier than in the above program.

** Sport activities – compulsory for everybody. In case of exemption from Sport activities because of some medical or health condition, non-sporting activities are available.

Animal Cell Culture Techniques & Plant Cell Culture Techniques

Medical Biotechnology & Industrial Biotechnology

Plant Biotechnology, Bioinformatics, Medical Biotechnology, Molecular Microbiology, Protein Biotechnology