

BSc LEVEL STUDIES OF BIOTECHNOLOGY 2023/2024

SEMESTER	No.	Course or module	ECTS	Exam (E) completion (Z)	Hours					Hours												
					In total	lectures (L)	practices (c)	seminars (c)	Laboratory (c)	I YEAR				II YEAR				III YEAR				
										I SEM.		II SEM.		III SEM.		IV SEM.		V SEM.		VI 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	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
SEMESTER I	1.	Plant biology	2	Z	15	15	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-
	2.	Animal biology (e-learning)	2	Z	15	15	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-
	3.	Introduction to biotechnology	2	Z	15	15	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-
	4.	General and inorganic chemistry	3	E	30	30	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-
	5.	General and inorganic chemistry – laboratory	2	Z	30	-	-	-	30	-	30	-	-	-	-	-	-	-	-	-	-	-
	6.	Mathematics in life sciences	3	E	30	30	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-
	7.		2	Z	30	-	30	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-
	8.	Introduction to bio-chemical calculations	3	Z	30	-	30	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-
	9.	Computer sciences	2	Z	15	15	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-
	10.		2	Z	30	-	30	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-
	11.	English in life sciences	2	Z	15	-	-	15	-	-	-	15	-	-	-	-	-	-	-	-	-	-
	12.	Safety in the laboratory	1	Z	6	-	6	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-
	13.	Basic laboratory techniques	2	Z	25	-	-	-	25	-	25	-	-	-	-	-	-	-	-	-	-	-

	14.	Initial training in the field of health and safety and fire protection (e-learning)	-	Z	4	-	4	-	-	-	4	-	-	-	-	-	-	-	-	-	
	15.	Polish (A1) for foreigners	-*	-*	60	-	60	-	-	-	60	-	-	-	-	-	-	-	-	-	
		Foreign language (other than English) for Polish citizens	-*	-*	60	-	60	-	-	-	60	-	-	-	-	-	-	-	-	-	
ELECTIVES																					
	16.	Plant or Animal Biology – laboratories	2	z	15	-	-	-	15	-	15	-	-	-	-	-	-	-	-	-	
30 ECTS / 365 hours / 2 exams																					
SEMESTR II	17.	Physicochemical methods in biology	3	E	20	20	-	-	-	-	-	20	-	-	-	-	-	-	-	-	
	18.	Structure and function of biomolecules	5	E	45	45	-	-	-	-	-	45	-	-	-	-	-	-	-	-	
	19.	Structure and function of biomolecules – laboratories	5	Z	60	-	-	-	60	-	-	-	60	-	-	-	-	-	-	-	-
	20.	Organic chemistry	4	E	30	30	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-
	21.	Organic chemistry – laboratories	3	Z	45	-	-	-	45	-	-	-	45	-	-	-	-	-	-	-	-
	22.	Biochemical calculations	4	Z	45	-	45	-	-	-	-	-	45	-	-	-	-	-	-	-	-
	23.	Introduction to statistics	4	E	30	30	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-
	24.		2	z	30	-	30	-	-	-	-	-	30	-	-	-	-	-	-	-	-
30 ECTS / 305 hours / 4 exams																					
SEMESTR III	25.	Metabolism	5	E	45	45	-	-	-	-	-	-	45	-	-	-	-	-	-	-	
	26.	Metabolism of proteins and carbohydrates	3	Z	40	-	-	-	40	-	-	-	-	-	40	-	-	-	-	-	-
	27.	Metabolism of lipids	2	Z	20	-	-	-	20	-	-	-	-	-	20	-	-	-	-	-	-

	28.	Biophysical chemistry	3	E	30	30	-	-	-	-	-	-	-	30	-	-	-	-	-	-	
	29.	Biophysical chemistry - practicals	2	Z	30	-	18	-	12	-	-	-	-	-	30	-	-	-	-	-	-
	30.	Genetics	3	E	30	30	-	-	-	-	-	-	-	30	-	-	-	-	-	-	-
	31.	Genetics - laboratories	2	Z	30	-	-	-	30	-	-	-	-	-	30	-	-	-	-	-	-
	32.	Scientific presentations	2	Z	15	-	-	15	-	-	-	-	-	-	15	-	-	-	-	-	-
	33.	Sport activities	-	Z	30	-	30	-	-	-	-	-	-	-	30	-	-	-	-	-	-
	ELECTIVES																				
34.	Elective lecture 1.	2	Z	15	15	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	
24 ECTS / 285 hours / 3 exams																					
SEMESTR IV	35.	Microbiology	3	E	30	30	-	-	-	-	-	-	-	-	-	30	-	-	-	-	
	36.	Microbiology - laboratories	2	Z	30	-	-	-	30	-	-	-	-	-	-	-	30	-	-	-	-
	37.	Techniques in molecular biology	2	Z	20	20	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-
	38.	Techniques in molecular biology - laboratories	3	Z	45	-	-	-	45	-	-	-	-	-	-	-	45	-	-	-	-
	39.	Sport activities**	-	Z	30	-	30	-	-	-	-	-	-	-	-	-	30	-	-	-	-
	ELECTIVES																				
	40.	Animal or Plant cell culture techniques	2	Z	15	15	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-
41.	2		Z	30	-	-	-	30	-	-	-	-	-	-	-	-	30	-	-	-	
42.	Bioinformatics and databases or	2	Z	15	15	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	
43.	Bioinformatics and protein modeling	2	Z	30	-	30	-	-	-	-	-	-	-	-	-	-	30	-	-	-	
44.	Biophysics and bioenergetics or Medical biophysics	3	E	30	30	-	-	-	-	-	-	-	-	-	-	30	-	-	-	-	
45.		2	Z	30	-	-	-	30	-	-	-	-	-	-	-	-	30	-	-	-	

	46.	Plant physiology (e-learning) or Animal physiology	3	E	30	30	-	-	-	-	-	-	-	-	-	30	-	-	-	-	
	47.	Seminar 1.	2	Z	15	-	-	15	-	-	-	-	-	-	-	-	15	-	-	-	-
	48.	Elective lecture 2.	2	Z	15	15	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-

30 ECTS / 365 hours / 3 exams

SEMESTR V	49.	Cell biology	4	E	30	30	-	-	-	-	-	-	-	-	-	-	30	-	-	-
	50.	Cell biology – laboratories	3	Z	45	-	-	-	45	-	-	-	-	-	-	-	-	45	-	-
	51.	Preparative biochemistry	2	E	15	15	-	-	-	-	-	-	-	-	-	-	15	-	-	-
	52.	Preparative biochemistry – laboratories	2	Z	30	-	-	-	30	-	-	-	-	-	-	-	-	30	-	-
	53.	Bioethics	2	Z	15	15	-	-	-	-	-	-	-	-	-	-	15	-	-	-

ELECTIVES

SEMESTR V	54.	Medical or Industrial biotechnology	4	E	30	30	-	-	-	-	-	-	-	-	-	-	30	-	-	-
	55.		3	Z	45	-	-	-	45	-	-	-	-	-	-	-	-	45	-	-
	56.	Seminar 2.	4	Z	30	-	-	30	-	-	-	-	-	-	-	-	-	30	-	-
	57.	Elective lecture 3.	2	Z	15	15	-	-	-	-	-	-	-	-	-	-	15	-	-	-
	58.	Elective lecture 4.	2	Z	15	15	-	-	-	-	-	-	-	-	-	-	15	-	-	-

28 ECTS / 270 hours / 3 exams

SEMESTR VI	59.	Enzymology	3	E	30	30	-	-	-	-	-	-	-	-	-	-	-	-	30	-	
	60.	Enzymology – laboratories	3	Z	45	-	-	-	45	-	-	-	-	-	-	-	-	-	-	-	45
	61.	Economics	2	Z	30	30	-	-	-	-	-	-	-	-	-	-	-	-	30	-	
	62.	Economics – practicals	2	Z	15	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	15
	63.	Immunology	3	E	30	30	-	-	-	-	-	-	-	-	-	-	-	-	-	30	-

64.	Immunology – laboratories	2	Z	30	-	-	-	30	-	-	-	-	-	-	-	-	-	-	30
65.	Intellectual property law	1	Z	15	15	-	-	-	-	-	-	-	-	-	-	-	-	15	-
ELECTIVES																			
66.	Biotechnology of pharmaceutics or Bioengineering	2	E	30	30	-	-	-	-	-	-	-	-	-	-	-	-	30	-
67.		1	z	15	-	-	-	15	-	-	-	-	-	-	-	-	-	-	15
68.	BSc seminar ¹⁾	3	Z	30	-	-	30	-	-	-	-	-	-	-	-	-	-	-	30
69.	Diploma thesis prepara- tion ¹⁾	12	Z	5	-	-	5	-	-	-	-	-	-	-	-	-	-	-	5
34 ECTS / 275 hours / 3 exams																			
	Polish (A1) / foreign language *	5/4	E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IN TOTAL: 180/181 ECTS / 1865 HOURS																			

L – lecture

c – practicals, laboratories, seminars

* Polish citizens: 4 ECTS are earned for completing 60 hours of foreign language course (language other than English; no specified level); Foreigners: 5 ECTS are earned for achieving the A1 level in Polish language.

1) *Plant Biotechnology, Bioinformatics, Medical Biotechnology, Molecular Microbiology, Protein Biotechnology*