

## Programme curriculum

Programme, level of studies BIOTECHNOLOGY (1st degree studies) BS course

Cycle from academic year 2022/2023

Predicted number of students starting the cycle 8

Year I Semester I

COMPULSORY COURSES								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	Physico-chemistry of biological systems	lecture	15	Exam	1	15	3	K_W01, K_W02, K_W03, K_W05, K_W09, K_U01, K_U02, K_U15, K_U13, K_U17, K_K04
		class	30	Graded Pass	1	30		
2.	Logic	lecture	10	Exam	1	10	2	Zgodnie z Uchwałą Senatu KUL
		class	15	Graded Pass	1	15		
3.	Mathematics with statistics in biology	lecture	15	Pass	1	15	2	K_W02, K_W03, K_U18, K_U17
		class	15	Graded Pass	1	15		
4.	Intellectual property protection	lecture	10	Graded Pass	1	10	1	K_W10, K_U07, K_K06
5.	Basics of animal cytophysiology and ontogenesis	lecture	30	Exam	1	30	9	K_W01, K_W03, K_U01, K_U02, K_U03, K_U12, K_U13, K_U17, K_K04
		class	60	Graded Pass	1	60		
6.	Basics of taxonomy	tutorial	30	Graded Pass	1	30	1	K_W04, K_W05, K_W06, K_W08, K_U01, K_U17, K_U11
7.	Laboratory techniques	class	45	Graded Pass	1	45	3	K_W02, K_W05, K_W09, K_U01, K_U02, K_U15, K_U17, K_K04
ELECTIVE COURSES								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	Foreign language class	foreign language class	30	Graded Pass	1	30	2	Zgodnie z Uchwałą Senatu KUL

2.	Physical education	class	30	Pass	1	30	0	Zgodnie z Uchwałą Senatu KUL
<b>ELECTIVE COURSES Chemistry I (alternative for Chemistry II)</b>								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	General chemistry with elements of physical chemistry	lecture	30	Graded Pass	1	30	7	K_W02, K_W03, K_W09, K_U02, K_U08, K_U09, K_U10, K_U13, K_U14, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
		tutorial	20	Graded Pass	1	20		
<b>ELECTIVE COURSES Chemistry II (alternative for Chemistry I)</b>								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	General and inorganic chemistry	lecture	30	Exam	1	30	7	K_W02, K_W09, K_U02, K_U08, K_U10, K_U13, K_U17, K_K04
		class	30	Graded Pass	1	30		
		tutorial	20	Graded Pass	1	20		

The student undergoes training: Health and safety procedures training, Student rights and obligations, Student culture and etho:

<b>NUMBER OF TEACHING HOURS PER SEMESTER PER STUDENT:</b>	415
<b>ECTS POINTS PER SEMESTER PER STUDENT:</b>	30

**Programme curriculum**  
**Programme, level of studies BIOTECHNOLOGY (1st degree studies) BS course**  
**Cycle from academic year 2022/2023**

**Predicted number of students starting the cycle        8**

**Year I Semester II**

<b>COMPULSORY COURSES</b>								
<b>No.</b>	<b>Course name</b>	<b>Type of class</b>	<b>Number of teaching hours</b>	<b>Form of assessment</b>	<b>Number of groups</b>	<b>Total hours</b>	<b>ECTS Points</b>	<b>Reference to programme learning outcomes</b>
1.	Mathematics with statistics in biology	lecture	15	Exam	1	15	2	K_W02, K_W03, K_U18, K_U17
		class	15	Graded Pass	1	15		
2.	Basics of plant cytophysiology and ontogenesis	lecture	30	Exam	1	30	9	K_W01, K_W03, K_U01, K_U02, K_U03, K_U12, K_U13, K_U17, K_K04
		class	60	Graded Pass	1	60		
3.	Entrepreneurship	workshops	15	Graded Pass	1	15	1	zgodnie z uchwałą Senatu KUL
4.	Chromatographic techniques	class	30	Graded Pass	1	30	3	K_W02, K_W05, K_W09, K_U01, K_U02, K_U15, K_U17, K_K04
5.	Tutoring	workshops	15	Graded Pass	1	15	1	zgodnie z uchwałą Senatu KUL
<b>ELECTIVE COURSES</b>								
<b>No.</b>	<b>Course name</b>	<b>Type of class</b>	<b>Number of teaching hours</b>	<b>Form of assessment</b>	<b>Number of groups</b>	<b>Total hours</b>	<b>ECTS Points</b>	<b>Reference to programme learning outcomes</b>
1.	Foreign language class	foreign language class	30	Graded Pass	1	30	2	Zgodnie z Uchwałą Senatu KUL
2.	Physical education	class	30	Pass	1	30	0	zgodnie z uchwałą Senatu KUL

ELECTIVE COURSES Chemistry I (alternative for Chemistry II)								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	General chemistry with elements of physical chemistry	lecture	15	Exam	1	15	3	K_W02, K_W03, K_W09, K_U02, K_U08, K_U09, K_U10, K_U13, K_U14, K_U15, K_U17, K_K04
		class	15	Graded Pass	1	15		
2.	Organic chemistry - extended course	lecture	30	Exam	1	30	9	K_W02, K_W09, K_U01, K_U02, K_U08, K_U10, K_U13, K_U15, K_U17, K_K04
		class	60	Graded Pass	1	60		
ELECTIVE COURSES Chemistry II (alternative for Chemistry I)								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	Physical chemistry	lecture	30	Exam	1	30	6	K_W02, K_W03, K_W09, K_U02, K_U08, K_U09, K_U10, K_U13, K_U14, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
2.	Organic chemistry – basic course	lecture	30	Exam	1	30	6	K_W02, K_W09, K_U01, K_U02, K_U08, K_U10, K_U14, K_U15, K_K04
		class	30	Graded Pass	1	30		

NUMBER OF TEACHING HOURS PER SEMESTER PER STUDENT:	360
ECTS POINTS PER SEMESTER PER STUDENT:	30

**Programme curriculum**  
**Programme, level of studies BIOTECHNOLOGY (1st degree studies) BS course**  
**Cycle from academic year 2022/2023**

Predicted number of students starting the cycle **8**

**Year II Semester III**

<b>COMPULSORY COURSES</b>								
<b>No.</b>	<b>Course name</b>	<b>Type of class</b>	<b>Number of teaching hours</b>	<b>Form of assessment</b>	<b>Number of groups</b>	<b>Total hours</b>	<b>ECTS Points</b>	<b>Reference to programme learning outcomes</b>
1.	Biochemistry with enzymology	lecture	30	Exam	1	30	8	K_W01, K_W02, K_W05, K_W08, K_W09, K_U01, K_U02, K_U13, K_U15, K_U17, K_K04
		class	60	Graded Pass	1	60		
2.	Ethics	lecture	25	Exam	1	25	1	Zgodnie z Uchwałą Senatu KUL
3.	Plant physiology	lecture	30	Exam	1	30	7	K_W01, K_W05, K_W08, K_W09, K_U01, K_U02, K_U03, K_U13, K_U15, K_U17, K_K04
		class	45	Graded Pass	1	45		
4.	Animal and human physiology	lecture	30	Exam	1	30	7	K_W01, K_W02, K_W07, K_W08, K_U01, K_U02, K_U03, K_U13, K_U15, K_U17, K_K04
		class	45	Graded Pass	1	45		
5.	General microbiology	lecture	30	Exam	1	30	6	K_W01, K_W02, K_W05, K_W08, K_U01, K_U02, K_U03, K_U04, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
<b>ELECTIVE COURSES</b>								
<b>L.p.</b>	<b>Nazwa przedmiotu</b>	<b>Forma zajęć</b>	<b>Liczba godzin</b>	<b>Forma zaliczenia</b>	<b>Liczba grup</b>	<b>Łączna liczba godzin</b>	<b>Liczba ECTS</b>	<b>Odniesienie do efektów kierunkowych</b>
1.	Foreign language class	foreign language class	30	Graded Pass	1	30	2	Zgodnie z Uchwałą Senatu KUL

NUMBER OF TEACHING HOURS PER SEMESTER PER STUDENT:	355
ECTS POINTS PER SEMESTER PER STUDENT:	31

**Programme curriculum**  
**Programme, level of studies BIOTECHNOLOGY (1st degree studies) BS course**  
**Cycle from academic year 2022/2023**

**Predicted number of students starting the cycle      8**

**Year II Semester IV**

<b>COMPULSORY COURSES</b>								
<b>No.</b>	<b>Course name</b>	<b>Type of class</b>	<b>Number of teaching hours</b>	<b>Form of assessment</b>	<b>Number of groups</b>	<b>Total hours</b>	<b>ECTS Points</b>	<b>Reference to programme learning outcomes</b>
1.	Molecular biology	lecture	30	Exam	1	30	6	K_W01, K_W05, K_W06, K_W09, K_U01, K_U15, K_U17, K_K04
		class	45	Graded Pass	1	45		
2.	Genetics	lecture	30	Exam	1	30	6	K_W01, K_W06, K_W09, K_U01, K_U02, K_U03, K_U14, K_U17, K_K04
		class	30	Graded Pass	1	30		
3.	History of philosophy	lecture	30	Exam	1	30	2	Zgodnie z Uchwałą Senatu KUL
4.	Genetic engineering	lecture	15	Exam	1	15	4	K_W01, K_W05, K_W06, K_W09, K_U01, K_U02, K_U13, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
5.	Medical microbiology	lecture	30	Exam	1	30	6	K_W01, K_W04, K_W05, K_W08, K_W09, K_U01, K_U02, K_U03, K_U11, K_U12, K_U13, K_U15, K_U17, K_K01, K_K02, K_K04
		class	30	Graded Pass	1	30		
6.	Basics of bioinformatics	class	30	Graded Pass	1	30	2	K_W01, K_W03, K_W05, K_U01, K_U14, K_U15, K_U18, K_K01
<b>ELECTIVE COURSES</b>								
<b>No.</b>	<b>Course name</b>	<b>Type of class</b>	<b>Number of teaching hours</b>	<b>Form of assessment</b>	<b>Number of groups</b>	<b>Total hours</b>	<b>ECTS Points</b>	<b>Reference to programme learning outcomes</b>
1.	Foreign language class	foreign language class	30	Graded Pass	1	30	2	Zgodnie z Uchwałą Senatu KUL
2.	Foreign language class	exam	0	Exam		0	1	

<b>NUMBER OF TEACHING HOURS PER SEMESTER PER STUDENT:</b>	330
<b>ECTS POINTS PER SEMESTER PER STUDENT:</b>	29

**Programme curriculum**  
**Programme, level of studies BIOTECHNOLOGY (1st degree studies) BS course**  
**Cycle from academic year 2022/2023**

Predicted number of students starting the cycle

8

Year III Semester V

COMPULSORY COURSES								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	Plant cell and tissue cultures	lecture	15	Exam	1	15	4	K_W04, K_W06, K_W07, K_W08, K_U01, K_U02, K_U04, K_U13, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
2.	Marriage and family in Christian anthropology	tutorial	25	Graded Pass	1	25	2	zgodnie z uchwałą Senatu KUL
3.	Industrial microbiology	lecture	30	Exam	1	30	6	K_W01, K_W04, K_W08, K_W09, K_U01, K_U03, K_U15, K_U17, K_K04
		class	45	Graded Pass	1	45		
4.	Practical placement	practical placement	130	Pass	1	130	4	K_W09, K_U08, K_U15, K_U17, K_K03, K_K05, K_K06
SPECIALISATION COURSES - ELECTIVE (one to choose from)								
Specialisation: Industrial biotechnology								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	Biotechnological methods in pharmacy	lecture	30	Exam	1	30	6	K_W01, K_W02, K_W05, K_W07, K_W08, K_W09, K_U01, K_U11, K_U12, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
2.	Technologies and bioprocess engineering - extended course	lecture	30	Exam	1	30	6	K_W01, K_W07, K_W08, K_W09, K_W11, K_U01, K_U11, K_U12, K_U13, K_U15, K_U17, K_K04
		class	60	Graded Pass	1	60		
Specialisation: Experimental biotechnology								
1.	Analytical methods in biotechnology - extended course	lecture	30	Exam	1	30	5	K_W02, K_W03, K_W05, K_W09, K_U01, K_U13, K_U14, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
2.	Technologies and bioprocess engineering - basic course	lecture	15	Exam	1	15	4	K_W01, K_W05, K_W08, K_W09, K_W11, K_U01, K_U11, K_U12, K_U13, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		

3.	Experimental toxicology	lecture	15	Graded Pass	1	15	3	K_W01, K_W07, K_W09, K_U01, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
<b>ELECTIVE COURSES Seminars (one to choose from)</b>								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	Seminar	seminar	30	Pass	1	30	2	K_W01, K_W05, K_W08, K_U06, K_U07, K_U11, K_U12, K_U13, K_U16, K_U17, K_U18, K_K01, K_K02, K_K06

<b>NUMBER OF TEACHING HOURS PER SEMESTER PER STUDENT:</b>	325
<b>ECTS POINTS PER SEMESTER PER STUDENT:</b>	30

**Programme curriculum**  
**Programme, level of studies BIOTECHNOLOGY (1st degree studies) BS course**  
**Cycle from academic year 2022/2023**

Predicted number of students starting the cycle    8

Year III Semester VI

<b>COMPULSORY COURSES</b>								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	Animal cell and tissue cultures	lecture	15	Exam	1	15	4	K_W04, K_W06, K_W07, K_W08, K_U01, K_U02, K_U04, K_U13, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
2.	Economics of production	class	15	Graded Pass	1	15	1	K_W03, K_W09, K_W10, K_W11, K_U07, K_K06
<b>ELECTIVE COURSES Monographic lectures (one or two to choose from – for 2 ECTS credits)</b>								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	Monographic lectures	lecture	30	Graded Pass	1	30	2	K_W01, K_W04, K_W08, K_U17
<b>SPECIALISATION COURSES - ELECTIVE (one to choose from)</b>								
<b>Specialisation: Industrial biotechnology</b>								
No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	Immunology – extended course	lecture	30	Exam	1	30	6	K_W01, K_W05, K_W09, K_U01, K_U05, K_U13, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
2.	Analytical methods in biotechnology - basic course	lecture	15	Exam	1	15	5	K_W02, K_W03, K_W05, K_W09, K_U01, K_U13, K_U14, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
<b>Specialisation: Experimental biotechnology</b>								
1.	Immunology with immunodiagnosics	lecture	15	Exam	1	15	5	K_W01, K_W05, K_W09, K_U01, K_U05, K_U13, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
2.	Bioprocess strategies	lecture	30	Exam	1	30	6	K_W01, K_W05, K_W08, K_W09, K_U01, K_U11, K_U13, K_U15, K_U17, K_K04
		class	30	Graded Pass	1	30		
<b>ELECTIVE COURSES Seminars (one to choose from). Bachelor's thesis and preparation for diploma examination - student is required to prepare bachelor's thesis</b>								

No.	Course name	Type of class	Number of teaching hours	Form of assessment	Number of groups	Total hours	ECTS Points	Reference to programme learning outcomes
1.	Seminar	seminar	30	Pass	1	30	2	K_W01, K_W05, K_W08, K_U06, K_U07, K_U11, K_U12, K_U13, K_U16, K_U17, K_U18, K_K01, K_K02, K_K06
2.	Bachelor's thesis and preparation for diploma examination	final thesis	0	Pass	1	0	10	K_W01, K_W05, K_W08, K_U06, K_U07, K_U11, K_U12, K_U13, K_U16, K_U17, K_U18, K_K01, K_K02, K_K06

<b>NUMBER OF TEACHING HOURS PER SEMESTER PER STUDENT:</b>	225
<b>ECTS POINTS PER SEMESTER PER STUDENT:</b>	30

<b>NUMBER OF TEACHING HOURS PER CYCLE PER STUDENT:</b>	2010
<b>ECTS POINTS PER CYCLE PER STUDENT:</b>	180