

Programme curriculum
Programme BIOTECHNOLOGY (second degree studies) MSc course
Cycle from academic year 2020/2021

Predicted number of students starting the cycle
Year I Semester I

8

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.	The Bible – its nature and role in culture	lecture	30	Exam	1	30	2	Uchwała Senatu KUL z dnia 12 kwietnia 2012 r. (714/II/9)
2.	Bioinformatics	lecture	15	Exam	1	15	4	K_W04, K_U01, K_U04, K_K01
		class	15	Graded Pass	1	15		
3.	Plant biotechnology	lecture	15	Exam	1	15	5	K_W01, K_W02, K_W07, K_U01, K_U02, K_U07, K_U09, K_U11, K_U12, K_U14, K_U15, K_U16, K_K01, K_K02, K_K03, K_K04, K_K05
		class	26	Graded Pass	1	26		
		study visit	4	Pass	1	4		
4.	GMO - profits and risks	lecture	15	Exam	1	15	4	K_W02, K_W06, K_W07, K_U02, K_U03, K_U12, K_U15, K_U16, K_U17, K_K01, K_K02, K_K03, K_K04, K_K06
		class	15	Graded Pass	1	15		
5.	Experimental work methodology	lecture	10	Graded Pass	1	10	2	K_W04, K_W05, K_W07, K_U04, K_U05, K_U15, K_U18, K_U17, K_K04
		class	15	Graded Pass	1	15		
6.	Quality management systems and procedures for protection of intellectual property	lecture	30	Exam	1	30	5	K_W07, K_W08, K_W09, K_U02, K_U03, K_U08, K_U10, K_U16, K_K04
		class	30	Graded Pass	1	30		
7.	Bioenergy technologies	lecture	15	Exam	1	15	5	K_W01, K_W02, K_W03, K_W05, K_W07, K_U01, K_U07, K_U11, K_U12, K_U15, K_U16, K_K01, K_K03
		class	26	Graded Pass	1	26		
		study visit	4	Pass	1	4		
ELECTIVE COURSES Seminar courses (students choose one seminar and corresponding lab diploma)								
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_W02, K_W07, K_U01, K_U02, K_U03, K_U04, K_U05, K_U06, K_U07, K_U10, K_U11, K_U14, K_U15, K_U16, K_U17, K_U18, K_K01, K_K03, K_K05

2.	Lab diploma	lab diploma	15	Pass	3	45	1	K_W01, K_W02, K_W07, K_U01, K_U02, K_U03, K_U04, K_U05, K_U06, K_U07, K_U10, K_U11, K_U14, K_U15, K_U16, K_U17, K_U18, K_K01, K_K03, K_K05
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The student undergoes training: Health and safety procedures training

NUMBER OF TEACHING HOURS PER SEMESTER PER STUDENT:	310
ECTS POINTS PER SEMESTER PER STUDENT:	30

Programme curriculum
Programme BIOTECHNOLOGY (second degree studies) MSc course
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Predicted number of students starting the cycle

8

Year I Semester II

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.	Biotechnology of sewage and waste materials	lecture	15	Exam	1	15	6	K_W01, K_W02, K_W03, K_W05, K_W07, K_U01, K_U11, K_U12, K_U14, K_U16, K_K01, K_K03
		class	42	Graded Pass	1	42		
		study visit	3	Pass	1	3		
2.	Experimental work methodology	lecture	10	Exam	1	10	3	K_W04, K_W05, K_W07, K_U04, K_U05, K_U15, K_U18, K_U17, K_K04
		class	15	Graded Pass	1	15		
3.	Inorganic and composite materials in biotechnology	lecture	30	Exam	1	30	6	K_W05, K_U02, K_U11, K_K02
		class	30	Graded Pass	1	30		
4.	Specialise foreign language	class	60	Graded Pass	1	60	4	K_W01, K_U02, K_U06, K_U16
5.	Selected aspects of metabolism	lecture	15	Exam	1	15	4	K_W01, K_W02, K_W07, K_U01, K_U09, K_U11, K_U14, K_U15, K_U16, K_K01, K_K02, K_K03, K_K05
		class	15	Graded Pass	1	15		
ELECTIVE COURSES Monographic lectures (one or two to choose from – for 2 ECTS credits)								
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_W02, K_U02, K_U05, K_U16, K_U17
ELECTIVE COURSES (one or two to choose from – for 2 ECTS credits)								
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.	Subject in a foreign language		30	Z/E	1	30	2	
ELECTIVE COURSES Seminar courses (students choose one seminar and corresponding lab diploma)								

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_W02, K_W07, K_U01, K_U02, K_U03, K_U04, K_U05, K_U06, K_U07, K_U10, K_U11, K_U14, K_U15, K_U16, K_U17, K_U18, K_K01, K_K03, K_K05
2.	Lab diploma	lab diploma	15	Pass	1	15	1	K_W01, K_W02, K_W07, K_U01, K_U02, K_U03, K_U04, K_U05, K_U06, K_U07, K_U10, K_U11, K_U14, K_U15, K_U16, K_U17, K_U18, K_K01, K_K03, K_K05

NUMBER OF TEACHING HOURS PER SEMESTER PER STUDENT:	340
ECTS POINTS PER SEMESTER PER STUDENT:	30

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Year II Semester III

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.	Molecular cytogenetics	lecture	15	Exam	1	15	4	K_W01, K_W05, K_W07, K_U01, K_U14, K_U15, K_U16, K_K03
		class	15	Graded Pass	3	45		
2.	Catholic social science and social education of John Paul II	lecture	30	Exam	1	30	2	Uchwała Senatu KUL z dnia 12 kwietnia 2012 r. (714/II/12)
3.	Thermoanalytical and vacuum methods in bionanomaterials research	lecture	15	Graded Pass	1	15	3	K_W05, K_W07, K_U01, K_U04, K_U14, K_U15, K_U16, K_K01, K_K03
		class	15	Graded Pass	1	15		
SPECIALISATION COURSES - ELECTIVE (one to choose from)								
Specialization: Biotechnology of bioactive substances								
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.	Chromatography in biological activity studies	lecture	15	Exam	1	15	4	K_W01, K_W04, K_W05, K_U01, K_U04, K_U16, K_U17, K_K03, K_K05
		class	15	Graded Pass	1	15		
2.	Medicinal plant compounds	lecture	15	Exam	1	15	4	K_W01, K_W02, K_W05, K_U01, K_U07, K_U11, K_U15, K_U16, K_U17, K_K03, K_K05
		class	15	Graded Pass	1	15		
3.	Molecular principles of genetic diseases diagnosis	lecture	15	Exam	1	15	4	K_W01, K_W02, K_W05, K_W07, K_U01, K_U03, K_U11, K_U15, K_U16, K_U17, K_K01, K_K03
		class	15	Graded Pass	1	15		
4.	Molecular basics of drug design	lecture	15	Exam	1	15	4	K_W01, K_W02, K_U03, K_U04, K_U05, K_U07, K_U11, K_U16, K_U17, K_K02, K_K03
		class	15	Graded Pass	1	15		
5.	Nanomaterials in biotechnology	lecture	15	Graded Pass	1	15	2	K_W05, K_W07, K_U01, K_U07, K_U11, K_U15, K_U17, K_K03
Specialization: Experimental 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.	Phytochemical analysis	class	30	Graded Pass	1	30	4	K_W01, K_W02, K_W05, K_U01, K_U04, K_U05, K_U07, K_U15, K_K01, K_K05
2.	Degradation of polymers	class	15	Graded Pass	1	15	2	K_W01, K_W02, K_W05, K_W07, K_U01, K_U03, K_U07, K_U15, K_U17, K_K01, K_K05
3.	Unconventional energy sources	lecture	15	Exam	1	15	5	K_W01, K_W02, K_W05, K_W07, K_U01, K_U03, K_U07, K_U09, K_U11, K_U15, K_U17, K_U18, K_K01, K_K05
		class	26	Graded Pass	1	26		
		study visit	4	Pass	1	4		
4.	Selected aspects of laboratory diagnostics	lecture	15	Exam	1	15	5	K_W04, K_W07, K_U04, K_U07, K_U15, K_U17, K_K02, K_K03, K_K05
		class	10	Graded Pass	1	10		
		study visit	5	Pass	1	5		
5.	Application of immobilization in biotechnology	lecture	15	Graded Pass	1	15	2	K_W01, K_W05, K_U01, K_U16, K_U17

ELECTIVE COURSES Seminar courses (students choose one seminar and corresponding lab diploma)

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_W02, K_W07, K_U01, K_U02, K_U03, K_U04, K_U05, K_U06, K_U07, K_U10, K_U11, K_U14, K_U15, K_U16, K_U17, K_U18, K_K01, K_K03, K_K05
2.	Lab diploma	lab diploma	15	Pass	1	15	1	K_W01, K_W02, K_W07, K_U01, K_U02, K_U03, K_U04, K_U05, K_U06, K_U07, K_U10, K_U11, K_U14, K_U15, K_U16, K_U17, K_U18, K_K01, K_K03, K_K05

NUMBER OF TEACHING HOURS PER SEMESTER PER STUDENT:	270
ECTS POINTS PER SEMESTER PER STUDENT:	30

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8

Year II Semester IV

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.	Economic aspects of biotechnology	lecture	10	Exam	1	10	1	K_W07, K_W08, K_W10, K_W11, K_U13, K_K04, K_K06
SPECIALISATION COURSES - ELECTIVE (one to choose from)								
Specialization: Biotechnology of bioactive substances								
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.	Mechanisms of microbial pathogenicity	lecture	15	Exam	1	15	4	K_W01, K_W02, K_W05, K_W07, K_U01, K_U07, K_U09, K_U11, K_U15, K_U18, K_K03
		class	15	Graded Pass	1	15		
2.	Post-translational modifications of proteins	lecture	15	Graded Pass	1	15	2	K_W01, K_W02, K_W07, K_U16
Specialization: Experimental 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.	Molecular toxicology	lecture	15	Exam	1	15	6	K_W01, K_W02, K_W05, K_U01, K_U09, K_U11, K_U15, K_U16, K_U17, K_U18, K_K01, K_K03, K_K05
		class	30	Graded Pass	3	90		
ELECTIVE COURSES Seminar courses (students choose one seminar and corresponding lab diploma). Student is required to prepare master's thesis.								
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_W02, K_W07, K_U01, K_U02, K_U03, K_U04, K_U05, K_U06, K_U07, K_U10, K_U11, K_U14, K_U15, K_U16, K_U17, K_U18, K_K01, K_K03, K_K05

2.	Lab diploma	lab diploma	15	Pass	1	15	1	K_W01, K_W02, K_W07, K_U01, K_U02, K_U03, K_U04, K_U05, K_U06, K_U07, K_U10, K_U11, K_U14, K_U15, K_U16, K_U17, K_U18, K_K01, K_K03, K_K05
3.	Master's thesis and preparation for diploma examination	final thesis	0	Pass	1	0	20	K_W01, K_W02, K_W07, K_U01, K_U02, K_U03, K_U04, K_U05, K_U06, K_U07, K_U10, K_U11, K_U14, K_U15, K_U16, K_U17, K_U18, K_K01, K_K03, K_K05

NUMBER OF TEACHING HOURS PER SEMESTER PER STUDENT:	100
ECTS POINTS PER SEMESTER PER STUDENT:	30

NUMBER OF TEACHING HOURS PER CYCLE PER STUDENT:	1020
ECTS POINTS PER CYCLE PER STUDENT:	120