

Programme curriculum
 Programme BIOTECHNOLOGY (second degree studies) MSc course
 education cycle beginning in 2019/2020

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.	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
		classes	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
		classes	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
		classes	15	Graded Pass	1	15		

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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
		classes	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
		classes	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
		classes	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

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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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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	7	K_W01, K_W02, K_W03, K_W05, K_U01, K_U11, K_U12, K_U14, K_U16, K_K01, K_K03
		classes	42	Graded Pass	3	126		
		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
		classes	15	Graded Pass	1	15		
3.	Inorganic and composite materials in biotechnology	lecture	30	Exam	1	30	7	K_W05, K_U02, K_U11, K_K02
		classes	30	Graded Pass	1	30		

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4.	Specialise foreign language	classes	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
		classes	4	Graded Pass	1	4		
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 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
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education cycle beginning in 2019/2020

Predicted number of students starting the cycle - 8

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
		classes	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
		classes	15	Graded Pass	1	15		

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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
		classes	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
		classes	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
		classes	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
		classes	15	Graded Pass	1	15		

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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	classes	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	classes	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
		classes	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
		classes	10	Graded Pass	1	10		
		study visit	5	Pass	1	5		

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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

Predicted number of students starting the cycle - 8

Year II Semester IV

COMPULSORY COURSES

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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
		classes	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

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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
		classes	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

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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

Uniwersytecka Komisja ds. Kształcenia
pozytywnie zaopiniowała
dnia 2019-05-23

PROREKTOR
Katolickiego Uniwersytetu Lubelskiego
Jana Pawła II

dr hab. Iwona Nawotalska, prof. KUL

Senat KUL zatwierdził

dnia 2019-05-30

Chp.




