University of Mining and Geology
"St. Ivan Rilski"

THE FACULTY OF GEO-EXPLORATION

Curriculum

VOCATIONAL FIELD	**5.11. BIOTECHNOLOGIES**
COURSE OF STUDIES	**BIOTECHNOLOGY**
	MASTER'S DEGREE
VOCATIONAL QUALIFICATION	**MASTER BIOTECHNOLOGIST**
FORM OF STUDY	**PART-TIME**
DURATION OF STUDY	**A YEAR AND A HALF (THREE SEMESTERS)**

Adopted at a session of the Academic Council of the University of Mining and Geology "St. Ivan Rilski"

HEAD OF DEPARTMENT OF *ENGINEERING GEOECOLOGY* :
(Assoc. Prof. An. Angelov, Ph.D.)

DEAN:
(Assoc. Prof. B. Valchev, Ph.D.)

Sofia, 2021

CURRICULUM

EDUCATIONAL QUALIFICATION DEGREE "MASTER"

SPECIALTY "BIOTECHNOLOGY"

PROFESSIONAL DIRECTION 5.11 "BIOTECHNOLOGIES"

FORM OF TRAINING: distance learning
DURATION OF STUDY: 1.5 YEARS
Duration of the semester: 15 weeks

Year	Semester	№	Discipline code	Full name of the course (course projects, internships)	Form of control	Weekly hours		Hours by type of exercise			Classroom employment	Credits
						L	E	SE	LE	PE		
First	First	1	172161	Biotechnologies in the processing of inorganic industrial waste	E	22	23	8	15		45	5
		2	172127	Environmental chemistry	E	15	23	8	15		38	5
		3	172150	Reactor technology in biotechnology	E	22	23	15	8		45	5
		4	172123	Biotechnology for microbial metabolites	E	15	23	8	15		38	6
		5	172151	Automation of biotechnological processes	E	15	23	8	15		38	5
		6	272122	Project management	CS	15	15	15			30	4
				Total for the first semester	**5+1**	**104**	**130**	**62**	**68**		**234**	**30**
	Second	7	172162	Biotechnological systems for green energy generation	E	22	23	8	15		45	7
		8	172163	Biotechnology for detoxification of organic pollutants	E	22	23	15	8		45	7
		9	172158	Biosensors and bioindicators	E	22	23	8	15		45	6
		10	282111	Modern methods for structural and quantitative analysis	E	15	15	7	8		30	5
		11		***Elective course from***	E	15	23	15	8		38	5
			172265	Biological methods for water purification								
			172219	Industrial biotechnology								
				Total for the second semester	**5**	**96**	**107**	**53**	**54**		**203**	**30**
				Total for the first year	**10**	**200**	**237**	**115**	**122**		**437**	**60**
Second	Third			Undergraduate internship and defense of Diploma Thesis	15 days x 6 hours						**45**	**15**
				Total for the second year							**45**	**15**
				TOTAL FOR THE ENTIRE TRAINING COURSE	**10**	**200**	**237**	**115**	**122**		**482**	**75**

Signs: E -exam, CS- current assessment, L - lectures, LE - laboratory exercises, SE- seminar exercieses, PE - practical exercises

Parameters of the learning process:

Total hours for the training course:	**482**
Classroom employment:	**482**
Lectures:	**245**
Exercieses:	**237**
- seminar	**115**
- laboratory	**122**
- practical	
Extracurricular activities (study practices):	
Number of exams for the training course:	**10**
Number of current ratings:	