VYTAUTAS MAGNUS UNIVERSITY
MCMXXII

Master degree study programme: Applied Biotechnology
Faculty of Natural Sciences

Curriculum

No.	Course Title	Credits (ECTS)
I Year		
I Semester		
1.	Molecular Biology	6
2.	Separation Methods in Biotechnology	6
3.	Molecular Methods in Microbiology	6
4.	Research Work	6
	Elective Courses (1)	
1.	Biofuel	6
2.	Biotechnology for Medicine	6
3.	Integral Analysis of Biological Systems	6
4.	Biophotonics	6
5.	Special Course (visiting teacher)	6
	Total:	**30**
II Semester		
1.	Industrial Plant and Process Design	6
2.	Molecular Biotechnology	6
3.	Cell and Tissue Culture Techniques	6
4.	Research Project	6
	Elective Courses (1)	
1.	Bionanotechnology and Biomodeling	6
2.	Genetically Modified Organisms	6
3.	Quantum-Chemical and Molecular Dynamics Modeling	6
4.	Special Course (visiting teacher)	6
	Total:	**30**
II Year		
III Semester		
1.	Scientific Professional Practice	6
	2–5. Courses of Elective Specialization (4)	
	Specialization (elective):	
	"Innovative Bioelectrotechnologies"	
1.	Mechanims and Methods of Bioelectrotechnologies	6
2.	Biomedical Applications of Pulsed Electric Fields	6
3.	Instrumentation and Electrochemistry of PEF Technologies	6

4.	Applications of Pulsed Electric Fields for Food and Biomass Processing	6
	"Plant (& Forest) Biotechnology"	
1.	Molecular Biology of Medicinal Plants	6
2.	Forest Biotechnology	6
3.	Agricultural Biotechnology	6
4.	Horticulture Biotechnology	6
	Total:	**30**
IV Semester		
1.	Master Thesis	**30**
	Total:	**30**
	Total for the Programme:	**120**

Note: there might be some changes in the programme.