

**Faculty of Agronomy of Bioengineering**

**STUDY CURRICULUM**

Field of study **Biotechnology**

Course	Number of ECTS credits	Number of hours						asses-ment <sup>3</sup>	Department/Institute
		Total (4+5+6+7+8)	teaching hours			contact hours	ESW <sup>2</sup>		
			lectures	pract. classes	others <sup>1</sup>				
1	2	3	4	5	6	7	8	9	10
<b>Semester 1</b>									
Use of Microorganisms in Biotechnology	4	120	15	30		5	70		Department of General and Environmental Microbiology
Bioinformatics	3	90	15	15		5	55		Department of Biochemistry and Biotechnology
Industrial Applications of Cell and Tissue Cultures	5	140	15	30		5	90		Department of Biotechnology and Food Microbiology/ Department of Biochemistry and Biotechnology
Data Processing and Experimental Design	4	125	15	30		15	65		Department of Mathematical and Statistical Methods
Genetic Engineering	7	180	15	60		5	100		Department of Biochemistry and Biotechnology
Application of Biotechnology in Plant Breeding	5	140	15	30		5	90		Department of Genetics and Plant Breeding
total number of hours – semester 1	<b>28</b>	<b>795</b>	<b>90</b>	<b>195</b>		<b>40</b>	<b>470</b>		

<b>Semester 2</b>									
Biotechnology in Chemical Industry and Energetics	7	180	30	45		5	100		Department of Biotechnology and Food Microbiology
Plant Biotechnology	7	190	30	45		5	110		Department of Biochemistry and Biotechnology
Cytogenetics and Chromosome Engineering	5	130	15	45		5	65		Department of Genetics and Plant Breeding/ Department of Biochemistry and Biotechnology
Recent Advances in Biotechnology: <ul style="list-style-type: none"> <li>• Industrial Biotechnology</li> <li>• Animal Biotechnology</li> </ul>	6	79 79	15 15	15 15		1 1	48 48		Department of Biotechnology and Food Microbiology/ Department of Genetics and Animal Breeding
M. Sc. Seminar I	2	50		30		4	16		Department of Genetics and Animal Breeding
M. Sc. Laboratory I	5	125				125			
total number of hours – semester 2	<b>32</b>	<b>833</b>	<b>105</b>	<b>195</b>		<b>146</b>	<b>387</b>		
<b>Semester 3</b>									
Recent Advances in Biotechnology: <ul style="list-style-type: none"> <li>• Plant Biotechnology</li> <li>• Molecular Diagnostics</li> </ul>	6	79 79	15 15	15 15		1 1	48 48		Department of Genetics and Plant Breeding/ Department of Biochemistry and Biotechnology
Gene Expression and Regulation	4	120	15	15		5	85		Department of Biochemistry and Biotechnology
M. Sc. Seminar II	4	120		30		5	85		Department of Biotechnology and Food Microbiology
M. Sc. Laboratory II	15	400				250	150		
total number of hours – semester 3	<b>29</b>	<b>798</b>	<b>45</b>	<b>75</b>		<b>262</b>	<b>416</b>		

<b>Semester 4</b>									
Genetic Diseases of Domestic Animals	4	100	15	15		2	68		Department of Genetics and Animal Breeding
Molecular Diagnostics	8	205	30	30		5	140		Department of Biochemistry and Biotechnology
M. Sc. Seminar III	4	120		30		5	85		Department of Biochemistry and Biotechnology
M. Sc. Laboratory III	15	400				250	150		
total number of hours – semester 4	<b>31</b>	<b>825</b>	<b>45</b>	<b>75</b>		<b>262</b>	<b>443</b>		
<b>total for studies (four semesters)</b>	<b>120</b>	<b>3251</b>	<b>285</b>	<b>540</b>		<b>710</b>	<b>1716</b>		

<sup>1</sup> any activities other than conversatory, laboratory or design classes (e.g. site visits, case study visits, excursions and others)

<sup>2</sup> EX – examination; GA – graded assignment;

**ESW** - estimated number of student work hours