

## I. SEMESTER

Code	Course	Course Status	Theoretical	Prac.	Credit	ECTS
BIE 5501	Bioengineering Elective Courses	Seçmeli	-	-	-	18
BIE 5101	Basic Topics in Bioengineering	Zorunlu	3	0	3	6
FEN 5501	Scientific Research Techniques and Publication Ethics	Zorunlu	3	0	3	6

## II. SEMESTER

Code	Course	Course Status	Theoretical	Prac.	Credit	ECTS
BIE 5502	Bioengineering Elective Courses	Seçmeli	-	-	-	18
BIE 5806	Seminar	Zorunlu	0	0	0	6
FEN 5000	Thesis	Zorunlu	0	0	0	6

## III. SEMESTER

Code	Course	Course Status	Theoretical	Prac.	Credit	ECTS
UZM 5000	Guided Research	Zorunlu	0	0	0	6
TEZ 5000	Thesis	Zorunlu	0	0	0	24

## IV. SEMESTER

Code	Course	Course Status	Theoretical	Prac.	Credit	ECTS
UZM 5000	Guided Research	Zorunlu	0	0	0	6
TEZ 5000	Thesis	Zorunlu	0	0	0	24

**Bioengineering Elective Course Pool – Fall**

<b>Code</b>	<b>Course</b>	<b>Course Status</b>	<b>Theoretical</b>	<b>Prac.</b>	<b>Credit</b>	<b>ECTS</b>
BIE 5201	Membrane Separation Technologies	Seçmeli	3	0	3	6
BIE 5203	Advanced Analytical Methods in Engineering	Seçmeli	3	0	3	6
BIE 5205	Recombinant DNA Technologies	Seçmeli	3	0	3	6
BIE 5207	Biomimetic Applications in Technology	Seçmeli	3	0	3	6
BIE 5209	Experimental Design and Optimization	Seçmeli	3	0	3	6
BIE 5211	Rapid Diagnostic Kit Technologies	Seçmeli	3	0	3	6
BIE 5213	Nanobiotechnology	Seçmeli	3	0	3	6
BIE 5215	Liquid Crystal-Polymer-Colloid Composites in Bioengineering	Seçmeli	3	0	3	6
BIE 5217	Advanced Genome Editing Technologies	Seçmeli	3	0	3	6
BIE 5219	Advanced Bioinformatics	Seçmeli	3	0	3	6
BIE 5221	Advanced Bioreactor Applications	Seçmeli	3	0	3	6
BIE 5223	Red Biotechnology in Bioengineering	Seçmeli	3	0	3	6
BIE 5225	Down-Stream Processing	Seçmeli	3	0	3	6
BIE 5227	Bioethanol Production Techniques	Seçmeli	3	0	3	6
BIE 5229	Microbial Enzyme Productions	Seçmeli	3	0	3	6
BIE 5231	Phytotherapeutic	Seçmeli	3	0	3	6
BIE 5233	Biological Characterization Techniques for Biomaterials	Seçmeli	3	0	3	6
BIE 5235	Engineering Mathematics	Seçmeli	3	0	3	6
BIE 5237	Advanced Molecular Modelling	Seçmeli	3	0	3	6
BIE 5239	Biostatistics	Seçmeli	3	0	3	6
BIE 5241	Special Topics in Molecular Genetics	Seçmeli	3	0	3	6

**Bioengineering Elective Course Pool – Spring**

<b>Code</b>	<b>Course</b>	<b>Course Status</b>	<b>Theoretical</b>	<b>Prac.</b>	<b>Credit</b>	<b>ECTS</b>
BIE 5202	Membrane Synthesis and Characterizations	Seçmeli	3	0	3	6
BIE 5204	Advanced Numerical Methods in Engineering	Seçmeli	3	0	3	6
BIE 5206	Microbial Genetics	Seçmeli	3	0	3	6
BIE 5208	Animal Cell Culture Technologies	Seçmeli	3	0	3	6
BIE 5210	Biosensor Technologies	Seçmeli	3	0	3	6
BIE 5212	Electrochemistry	Seçmeli	3	0	3	6
BIE 5214	Instrumental Characterization Techniques	Seçmeli	3	0	3	6
BIE 5216	R Programming Language	Seçmeli	3	0	3	6
BIE 5218	Applications of Microalgal Bioproducts	Seçmeli	3	0	3	6
BIE 5220	Industrial Bioprocess Applications	Seçmeli	3	0	3	6
BIE 5222	Advanced Fermentation Techniques	Seçmeli	3	0	3	6
BIE 5224	Advanced Separation and Purification Technologies	Seçmeli	3	0	3	6
BIE 5226	Trends in Bioprocessing	Seçmeli	3	0	3	6
BIE 5228	Plant Biotechnology	Seçmeli	3	0	3	6
BIE 5230	Plant Tissue Culture	Seçmeli	3	0	3	6
BIE 5232	Natural Products Chemistry	Seçmeli	3	0	3	6
BIE 5234	Biodegradable Plastics	Seçmeli	3	0	3	6
BIE 5236	Surface Chemistry	Seçmeli	3	0	3	6
BIE 5238	Molecular Dynamics Simulation	Seçmeli	3	0	3	6
BIE 5240	Bacterial and Viral Vaccines	Seçmeli	3	0	3	6
BIE 5242	Electrical and Optical Biomaterials	Seçmeli	3	0	3	6