

YEAR ONE																
1st Term						2nd Term										
Code	Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite	
PHYS101	Physics I*	3	0	2	4	6		PHYS102	Physics II*	3	0	2	4	6		
MATH101	Calculus I*	3	2	0	4	6		MATH102	Calculus II*	3	2	0	4	6		
CHEM103	Fundamentals of Chemistry*	3	0	2	4	6		CHEM104	Organic Chemistry*	3	0	2	4	6		
TURK101	Turkish Language I	2	0	0	2	3		TURK102	Turkish Language II	2	0	0	2	3		
RPS109	Positive Psychology and Communication Skills	3	0	0	3	5		BEN102	Introduction to Bioengineering	2	0	0	2	3		
RCUL101	University Culture I*	0	2	0	1	1		MBG154	General Biology*	2	0	2	3	4		
ENG101	English I	3	0	0	3	3		ENG102	English II	3	0	0	3	3		
								RCUL102	University Culture II*	0	2	0	1	1		
Total Credits						17	4	4	21	30						
											18	4	6	23	32	

YEAR TWO																
3rd Term						4th Term										
Code	Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite	
BEN205	Stoichiometry	3	0	0	3	4		BEN202	Biochemistry	3	0	0	3	4		
CHEM203	Physical Chemistry	3	0	0	3	4		BEN207	Bioengineering Laboratory I*	0	0	4	2	3		
BEN209	Cell Biology*	3	0	2	4	5		CHE206	Fluid Mechanics and Applications	3	0	0	3	5		
MATH203	Differential Equations*	2	2	0	3	5		ATA102	Principles of Atatürk and History of Revolutions II	2	0	0	2	3		
XXXXXX	Social Elective I	3	0	0	3	5		BEN216	Kinetics and Reactor Design	3	0	0	3	5		
ATA101	Principles of Atatürk and History of Revolutions I	2	0	0	2	3		COME102	Introduction to Algorithms and Programming*	2	0	2	3	4		
RPE104	Entrepreneurship and Project Culture	2	0	0	2	3		BEN284	Summer Practice I**	0	0	0	0	5		
Total Credits						18	2	2	20	29						
											13	0	6	16	29	

YEAR THREE																
5th Term						6th Term										
Code	Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite	
BEN301	Heat and Mass Transfer	3	0	0	3	5		BEN304	Bioengineering Laboratory II*	0	0	4	2	3		
COME211	Introduction to Programming for Engineers*	1	0	2	2	3		BEN326	Bioinformatics I	3	0	0	3	4		
BEN341	Human Physiology	2	0	0	2	3		XXXXXX	Social Elective III	3	0	0	3	5		
BEN333	General Microbiology*	2	0	2	3	5		MATH204	Statistics	3	0	0	3	5		
BEN00X	Departmental Elective I	3	0	0	3	5		BEN328	Genetic Engineering*	3	0	2	4	5		
XXXXXX	Field Elective I	3	0	0	3	5		BEN00X	Departmental Elective II	3	0	0	3	5		
XXXXXX	Social Elective II	3	0	0	3	5		BEN384	Summer Practice II**	0	0	0	0	5		
Total Credits						17	0	4	19	31						
											15	0	6	18	32	

YEAR FOUR																
7th Term						8th Term										
Code	Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite	
BEN489	Graduation Project*	2	2	0	3	5		BEN492	Graduation Thesis*	1	8	0	5	8	BEN489	
BEN409	Process Dynamics and Control	3	0	0	3	5		BEN00X	Departmental Elective V	3	0	0	3	5		
MBG408	Bioethics	2	0	0	2	3		BEN00X	Departmental Elective VI	3	0	0	3	5		
XXXXXX	Field Elective II	3	0	0	3	5		XXXXXX	Field Elective III	3	0	0	3	5		
BEN00X	Departmental Elective III	3	0	0	3	5		XXXXXX	Field Elective IV	3	0	0	3	5		
BEN00X	Departmental Elective IV	3	0	0	3	5		OHS402	Occupational Health and Safety II	2	0	0	2	2		
OHS401	Occupational Health and Safety I	2	0	0	2	2										
Total Credits						18	2	0	19	30						
											15	8	0	19	30	

2022-2023	Total Course Credits for Graduation	155
	Total Course ECTS for Graduation	243
	Total Elective Courses ECTS	65
	Elective Course Ratio	27%

*These courses are under the Applied Course status.
**These courses are under the Internship Course status.

Elective Course Pool															
Departmental Elective Courses								Social Elective Courses							
Code	Course Name	T	P	L	C	ECTS	Prerequisite	Code	Course Name	T	P	L	C	ECTS	Prerequisite
BEN206	Biomaterials	3	0	0	3	5		ESP123	Spanish I	3	0	0	3	5	
BEN213	Biosensors	3	0	0	3	5		ESP124	Spanish II	3	0	0	3	5	ESP123
BEN215	Engineering Economics	3	0	0	3	5		CHN123	Chinese I	3	0	0	3	5	
BEN217	Bio-CAD Modeling*	2	0	2	3	5		CHN124	Chinese II	3	0	0	3	5	CHN123
BEN218	Introduction to Astrophysics	3	0	0	3	5		ARB123	Arabic I	3	0	0	3	5	
BEN221	Biopolymers	3	0	0	3	5		ARB124	Arabic II	3	0	0	3	5	ARB123
BEN302	Biotransport Process	3	0	0	3	5		RSN123	Russian I	3	0	0	3	5	
BEN310	Bioreactors	3	0	0	3	5		RSN124	Russian II	3	0	0	3	5	RSN123
BEN312	Downstream Processes	3	0	0	3	5		GER123	German I	3	0	0	3	5	
BEN313	Biothermodynamics	3	0	0	3	5		GER124	German II	3	0	0	3	5	GER123
BEN314	Introduction to Pathology	3	0	0	3	5		FRN123	French I	3	0	0	3	5	
BEN315	Bioprocess Engineering	3	0	0	3	5		FRN124	French II	3	0	0	3	5	FRN123
BEN317	Introduction to Biotechnology	3	0	0	3	5		Field Elective Courses							
BEN321	Medicinal Chemistry	3	0	0	3	5		For Field Elective courses, any departmental elective course having appropriate credits from other departments of Faculty of Engineering and Natural Sciences can be elected.							
BEN322	Nanoneuroscience	3	0	0	3	5		Social Elective Courses							
BEN323	Metabolic Engineering	3	0	0	3	5		For Social Elective courses any course having appropriate credits from other faculties can be elected.							
BEN324	Measurement Techniques: Sensors	3	0	0	3	5									
BEN325	Bioelectromagnetic Interactions	3	0	0	3	5									
BEN327	Molecular Techniques in Bioengineering*	2	0	2	3	5	MBG314								
BEN329	Biological Clocks	3	0	0	3	5									
BEN331	Genomics	3	0	0	3	5									
BEN332	History of Science	3	0	0	3	5									
BEN334	Introduction to Nanotechnology	3	0	0	3	5									
BEN335	Animal and Plant Physiology	3	0	0	3	5									
BEN337	Drug Delivery	3	0	0	3	5									
BEN339	Virology	3	0	0	3	5									
BEN342	Fundamentals of Immunology	3	0	0	3	5									
BEN346	Mathematical Modeling	3	0	0	3	5									
BEN351	Bioengineering Project I	3	0	0	3	5									
BEN352	Bioengineering Project II	3	0	0	3	5									
BEN354	Special Topics in Bioengineering	3	0	0	3	5									
BEN355	Biomedical Engineering Principles	3	0	0	3	5									
BEN402	Computational Bioengineering	3	0	0	3	5									
BEN403	Parallel Algorithms for Bioengineers	3	0	0	3	5	BEN326								
BEN404	Protein Chemistry	3	0	0	3	5									
BEN405	Protein Engineering and Synthetic Vaccines	3	0	0	3	5									
BEN406	Tissue Engineering	3	0	0	3	5									
BEN407	Molecular Modeling	3	0	0	3	5									
BEN408	Quantum Chemistry	3	0	0	3	5									
BEN410	Basic Principles of Animal Experiments	3	0	0	3	5									
BEN412	Bioinformatics II	3	0	0	3	5	BEN326								
BEN413	Introduction to Radiation Physics	3	0	0	3	5									
BEN414	Artificial Intelligence Techniques in Bioengineering	3	0	0	3	5									
BEN415	Modelling in Process Safety	3	0	0	3	5									
BEN416	Introduction to Biomechanics	3	0	0	3	5									
BEN417	Bioengineering Laboratory III*	2	0	2	3	5									
BEN418	Molecular Mechanisms of Cancer	3	0	0	3	5									
BEN420	Bioprocess Design	3	0	0	3	5									
BEN421	Introduction to Cosmology	3	0	0	3	5									