

## Curriculum

### 1. Year - Fall Semester

Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM1201		Introduction To Bioengineering	2	0	0	2	4
FIZ1001		Physics 1	3	0	2	4	6
KIM1170		General Chemistry	3	0	2	4	6
MAT1071		Mathematics 1	3	2	0	4	6
MDB1031		Advanced English 1	3	0	0	3	3
TDB1031		Turkish Language 1	2	0	0	0	2
USS-1G		University Social Elective 1-1	3	0	0	3	3
<b>Total:</b>							<b>30</b>

### 1. Year - Spring Semester

Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM1512		Organic Chemistry for Engineers	3	0	0	3	5
BYM1172		Basic Computer Sciences	2	2	0	3	4
FIZ1002		Physics 2	3	0	2	4	6
MAT1072		Mathematics 2	3	2	0	4	6
MDB1032		Advanced English 2	3	0	0	3	3
TDB1032		Turkish language 2	2	0	0	0	2
BYM1522		Probability and Statistics	3	0	0	3	4
<b>Total:</b>							<b>30</b>

### 2. Year - Fall Semester

Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
ATA1031		Principles of Atatürk and History of Modern Turkey 1	2	0	0	0	2
BYM2131		Occupational Health and Safety 1	2	0	0	2	2
BYM2101		Basic Principles of Molecular Biology	3	0	0	3	6
BYM2321		Biochemistry in Bioengineering	4	0	0	4	6
BYM2071		Mass and Energy Balances	3	0	0	3	5
MAT2411		Differential Equations	4	0	0	4	6
USS-2G		University Social Elective-2	3	0	0	3	3
<b>Total:</b>							<b>30</b>

### 2. Year - Spring Semester

Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
ATA1032		Principles of Atatürk and History of Modern Turkey 2	2	0	0	0	2
BYM2132		Occupational Health and Safety 2	2	0	0	2	2
BYM2002		Intern 1	0	0	0	0	2
BYM2712		Biothermodynamics	2	2	0	3	4

BYM2222		Cell Biology and Cellular Mechanisms	2	0	2	3	5
BYM2812		Fluid Mechanics in Bioengineering	3	0	0	3	3
MDB3032		Business English	2	0	0	2	2
MES1-2B		Occupational Elective 1-1	3	0	0	3	5
MES1-2B		Occupational Elective 1-2	3	0	0	3	5
<b>Total:</b>							<b>30</b>
<b>3. Year - Fall Semester</b>							
Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM3401		Separation Processes in Bioengineering	2	0	2	3	5
BYM3511		Genetics Engineering	2	0	2	3	4
BYM3921		Heat and Mass Transfer in Bioengineering	4	0	0	4	4
BYM3501		Entrepreneurship and Project Management	2	0	0	2	4
BYM3031		Biomaterials	3	0	0	3	3
MES2-3G		Occupational Elective 2-1	3	0	0	3	5
MES2-3G		Occupational Elective 2-2	3	0	0	3	5
<b>Total:</b>							<b>30</b>
<b>3. Year - Spring Semester</b>							
Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM3002		Intern 2	0	0	0	0	3
BYM3132		Mathematical Modelling in Bioengineering	2	2	0	3	4
BYM3222	<input checked="" type="checkbox"/>	Bioengineering Laboratory 1	0	0	4	2	5
	Önk:	BYM3921, BYM2812					
BYM3302	<input checked="" type="checkbox"/>	Introduction to Design in Bioengineering	2	2	0	3	5
	Önk:	BYM3921					
BYM3782		Bioreactor Design	3	0	0	3	3
BYM3192		Physiology	3	0	0	3	5
MES3-3B		Occupational Elective 3-1	3	0	0	3	5
<b>Total:</b>							<b>30</b>
<b>4. Year - Fall Semester</b>							
Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM4211		Tissue Engineering	3	0	0	3	4
BYM4231		Bioengineering Laboratory 2	0	0	4	2	5
BYM4741	<input checked="" type="checkbox"/>	Bioprocess Engineering	3	0	0	3	6
	Önk:	BYM3302					
BYM4381		Immunology	3	0	0	3	5
MES4-4G		Occupational Elective 4-1	3	0	0	3	5
UMS-4G		University Occupational Elective	3	0	0	3	5
<b>Total:</b>							<b>30</b>
<b>4. Year - Spring Semester</b>							

Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM4000		Graduation Thesis	0	8	0	4	10
MES5-4B		Occupational Elective 5-1*	3	0	0	3	5
MES5-4B		Occupational Elective 5-2*	3	0	0	3	5
MES5-4B		Occupational Elective 5-3*	3	0	0	3	5
MES5-4B		Occupational Elective 5-4*	3	0	0	3	5
Total:							30
Program Total ECTS:							240
Occupational Elective 1 Courses (MES1)							
Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM2202		Polymer Science and Technology	3	0	0	3	5
BYM2312		Introduction to Modern Biology	3	0	0	3	5
BYM2332		Microbiology in Bioengineering	3	0	0	3	5
BYM2412		Vocational English in Bioengineering	3	0	0	3	5
BYM2612		Enzyme Technology	3	0	0	3	5
Occupational Elective 2 Courses (MES2)							
Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM3321		Cell Culture Systems	3	0	0	3	5
BYM3531		Biomedical Electronics	3	0	0	3	5
BYM3601		Biosensors	3	0	0	3	5
BYM3361		Concepts of Genetics	3	0	0	3	5
BYM3521		Bioinstrumental Techniques	3	0	0	3	5
Occupational Elective 3 Courses (MES3)							
Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM3652		Fundamentals of Biopolymers	3	0	0	3	5
BYM3232		Modern Techn. in Molecular Biology	3	0	0	3	5
BYM3322		Controlled Release Systems	3	0	0	3	5
Occupational Elective 4 Courses (MES4)							
Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM4701		Introduction to Bioceramics	3	0	0	3	5
BYM4691		Biochemical Engineering	3	0	0	3	5
BYM4101		Data Analysis and Visualization	3	0	0	3	5
BYM4801		Artificial Organs	3	0	0	3	5
Occupational Elective 5 Courses (MES5)							
Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM4602		Biomedical Physics	3	0	0	3	5
BYM4672		Biotransport	3	0	0	3	5
BYM4472		Process Dynamics and Control in	3	0	0	3	5

		Bioengineering					
BYM4412		Biophysics in Bioengineering	3	0	0	3	5
BYM4292		Bioengineering Economy	3	0	0	3	5
BYM4222		Technical Drawing in Bioengineering	3	0	0	3	5
BYM4502		Virology	3	0	0	3	5
BYM4662		Biomedical Materials	3	0	0	3	5
BYM4452		Biotechnology and Biosafety	3	0	0	3	5
BYM4852	<input checked="" type="checkbox"/>	Enviromental Microbiology	3	0	0	3	5
	Önk:	BYM2332					
BYM4962		Cooperative Education In Business 1	3	0	0	3	5
BYM4972		Cooperative Education In Business 2	3	0	0	3	5
BYM4982		Cooperative Education In Business 3	3	0	0	3	5
BYM4992		Cooperative Education In Business 4	3	0	0	3	5
University Social Elective Courses							
Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
ITB3220		Modernity and Consumer Society	3	0	0	3	3
ITB3130		Political Ideologies: Theory and History	3	0	0	3	3
ITB2080		Women in Social Transformation	3	0	0	3	3
ISL2170		Accounting Organization	3	0	0	3	3
ITB3010		Sociology	3	0	0	3	3
ITB3550		Human Rights	3	0	0	3	3
ITB3560		Political Philosophy	3	0	0	3	3
ITB3570		Philosophy of Education	3	0	0	3	3
ITB3390		World Civilizations	3	0	0	3	3
ITB2030		Philosophy of Science	3	0	0	3	3
ITB4100		Social Structures and Historical Transformations	3	0	0	3	3
ILT1621		Graphic Media Design Tools	3	0	0	3	3
SBP2082		Urban Sociology	3	0	0	3	3
SYP2192		Cultural management and Its Agents 2	3	0	0	3	3
SYP3241		Public Relations	3	0	0	3	3
MIM1422		Introduction to History of Art and Architecture	3	0	0	3	3
MIM2421		History of Architecture	3	0	0	3	3
MIM1412		History of Civilization	3	0	0	3	3
HRT2941		History of Geomatic Engineering Science	3	0	0	3	3
ITB2020		History of Science	3	0	0	3	3
INS2462		Traffic Safety	3	0	0	3	3
MDB4011		Introduction to German Language Skills	3	0	0	3	3
MDB4021		German Language Skills	3	0	0	3	3
MAK2100		History of Machine Technology	3	0	0	3	3

ITB3250		Introduction to Psychology	3	0	0	3	3
ITB3360		History of Art	3	0	0	3	3
MTP4760		Dance in Istanbul from the 16th Century to the Present	3	0	0	3	3
GIM4101		Innovation and Entrepreneurship in Engineering	3	0	0	3	3
TDB4011		Effective Communication and Impromptu Presentation Skills	3	0	0	3	3
TDB4031		Oratory and Diction	3	0	0	3	3
TDB4041		Turkish Story and Novel	3	0	0	3	3
ITB1680		Introduction to Polyphonic Music	3	0	0	3	3
TDB4051		Academic Turkish	3	0	0	3	3
DNS1220		Body Awareness and Breathing Techniques	3	0	0	3	3
DNS1240		Yoga and Anatomy	3	0	0	3	3
GIM4151		Innovation and Entrepreneurship	3	0	0	3	3
ITB4040		Volunteering Studies	3	0	0	3	3
TDB4061		Seven Hills İstanbul	3	0	0	3	3
ISL1150		Career Planning	3	0	0	3	3
KIM1052		Chemistry in Life	3	0	0	3	3
CEV3333		Patent and Commercialization	3	0	0	3	3
BED1013		Pilates Basic Training	3	0	0	3	3
MDB1016		Arabic for Beginners 2	3	0	0	3	3
MDB1004		Spanish for Beginners 2	3	0	0	3	3
MKT2201		Personal Mindfulness and Development	3	0	0	3	3
GRA2024		Sanal Evrene Giriş	3	0	0	3	3
EUT2022		Introduction to NFT	3	0	0	3	3
MDB1001		French for Beginners 1	3	0	0	3	3
MDB1003		Spanish for Beginners 1	3	0	0	3	3
MDB1007		Italian for Beginners 1	3	0	0	3	3
MDB1009		Greek for Beginners 1	3	0	0	3	3
MDB1011		Chinese for Beginners 1	3	0	0	3	3
MDB1013		Japanese for Beginners 1	3	0	0	3	3
MDB1015		Arabic for Beginners 1	3	0	0	3	3
MDB1017		Persian for Beginners 1	3	0	0	3	3
MDB1019		Russian for Beginners 1	3	0	0	3	3
SBO1180		Turkish Culture and History	3	0	0	3	3
SBP2020		Earthquake and Planning	3	0	0	3	3
INS4910		Disaster Information and Awareness	3	0	0	3	3
OKL2350		Nutrition and Health	3	0	0	3	3
MDB1010		Greek for Beginners 2	3	0	0	3	3

RPD2000		Addiction and Addiction Control	3	0	0	3	3
CEV3334		Environment and Human	3	0	0	3	3
SBO1120		Turkish Cultural Geography	3	0	0	3	3
MAT4279		Fundamental Rights and Responsibilities in Higher Education	3	0	0	3	3
TRO2730		Media Literacy	3	0	0	3	3
MDB1002		French for Beginners 2	3	0	0	3	3
BTO1910		Current Practices in Educational Technologies	3	0	0	3	3
FBO2260		Sustainability and Education	3	0	0	3	3
IMO2150		Concepts and Proofs in Linear Algebra	3	0	0	3	3
ING2350		English Academic Writing and Presentation Skills	3	0	0	3	3
MDB1008		Basic Italian 2	3	0	0	3	3
SNF2210		Youth and Education	3	0	0	3	3
SBO1190		Fairy Tales and Storytelling	3	0	0	3	3
SBO1230		Philosophy with Children	3	0	0	3	3
SBO1240		Environmental Citizenship and Education	3	0	0	3	3
TRO2281		Turkish Language History	3	0	0	3	3
EGT1022		Social anthropology	3	0	0	3	3
EGT4041		Education management	3	0	0	3	3
EGT2031		Human Resources Management	3	0	0	3	3
MTM3611		History of Mathematics	3	0	0	3	3
BED3011		Education of Basic Techniques in Basketball	3	0	0	3	3
BED3041		Soccer and Basic Movement Teaching	3	0	0	3	3
BED4031		Principle figures of the folk dances	3	0	0	3	3
BED3051		Education of Basic Techniques in Handball	3	0	0	3	3
BED3012		Education of Basic Techniques in Korfball	3	0	0	3	3
BED4022		Tennis Technic and Tactic Education	3	0	0	3	3
BED3042		Education of Basic Techniques in Volleyball	3	0	0	3	3
BED4032		Education of Fundamental Swimming Techniques	3	0	0	3	3
TRO2261		Turkish Language Teaching Literary Texts	3	0	0	3	3
SNF2112		Geography and geopolitics of Turkey	3	0	0	3	3
ISL2560		Public Relations in Business	3	0	0	3	3
ISL2710		Family Businesses and Institutionalization	3	0	0	3	3
ISL2630		Team Building and Development	3	0	0	3	3
ISL2901		Direct Marketing	3	0	0	3	3
ISL2760		Fundamentals of Logistics Management	3	0	0	3	3
SBP2031		Urban Economics	3	0	0	3	3
ITB2040		Economic Policies and Applications	3	0	0	3	3

ITB3330		Environment and Ecology	3	0	0	3	3
ITB2090		Democracy Culture Principles and Institutions	3	0	0	3	3
ITB3150		History and Cinema	3	0	0	3	3
ITB3020		Introduction to Philosophy	3	0	0	3	3
ITB3040		Political Developments and Social Movements in Twentieth-Century	3	0	0	3	3
ITB3270		Istanbul: Past, Present, and Future	3	0	0	3	3
ILT1611		Techniques Of Photography	3	0	0	3	3
ITB3260		Cultural Studies and Identity	3	0	0	3	3
ITB3420		The Social Structure of Ottoman Empire	3	0	0	3	3
ITB3210		Communication in Contemporary Society	3	0	0	3	3
University Occupational Elective Courses							
Code	Req.	Title	Lecture	Practical	Laboratory	Local Credit	ECTS
BYM4721		Nanotechnology in Bioengineering	3	0	0	3	5
SBU3001		Basic Issues in International Relations	3	0	0	3	5
IKT3610		Energy and Natural Resources Economics	3	0	0	3	5
EHM4370		Microprocessor Based System Design	3	0	0	3	5
EHM4220		Satellite Communication	3	0	0	3	5
EHM4270		Cellular Communication Systems 1	3	0	0	3	5
GIM4322		Economics of Energy	3	0	0	3	5
GIM4392		Engineering Economics	3	0	0	3	5
KIM3557		Environmental Chemistry and Technology	3	0	0	3	5
KMM3561		Technical Communication	3	0	0	3	5
ISL3660		Business Communication	3	0	0	3	5
CEV4501		Natural Treatment	3	0	0	3	5
MAK4482		Industrial Automation	3	0	0	3	5
CEV4111		Environmental and Public Health	3	0	0	3	5
HRT4332		Navigation And Kinematic Positioning	3	0	0	3	5
MIM4341		Space and History in cinema	3	0	0	3	5
ELM4010		Introduction to Smart Grids	3	0	0	3	5
SBP1300		Readings on Cities	3	0	0	3	5
SBP4310		Project Management Process in Participatory City Management	3	0	0	3	5
KVK4412		Cultural Heritage Management	3	0	0	3	5
BME4142		Physiological Control Systems	3	0	0	3	5
IKT3820		Social Policy Economics	3	0	0	3	5
ISL3940		Fundamentals of Actuarial Mathematics	3	0	0	3	5
INS3841		Introduction to Construction Legislation	3	0	0	3	5
BLM4400		Contemporary Topics in Comp. Engineering	3	0	0	3	5
BLM1012		Introduction To Procedural Programming	3	0	0	3	5

BME4110		Quantum Physics for Engineers	3	0	0	3	5
TDE3557		Literary Debates in Modern Turkish Literature	3	0	0	3	5
MTM4711		Mathematical Modeling	3	0	0	3	5
ELM4071		Numerical Methods and Applications in Engineering	3	0	0	3	5
KOM4760		Basic Optimization Concepts in Engineering	3	0	0	3	5
KOM4770		Manufacturing Techniques	3	0	0	3	5
GMI3850		Ship-Sourced Marine Pollution	3	0	0	3	5
GMI3860		Structure Dynamics	3	0	0	3	5
IST3557		Statistics and Scientific Thinking	3	0	0	3	5
MAT3557		Encryption	3	0	0	3	5
FIZ3557		Physics in Life	3	0	0	3	5
MBG3557		Evolution and Molecular Ecology	3	0	0	3	5
MEM4131		Material World	3	0	0	3	5
KVK4422		Museology and Museography	3	0	0	3	5
GDM4309		Food Literacy	3	0	0	3	5
MKT4403		Mechatronics System Integration	3	0	0	3	5
END4393		Risk Management	3	0	0	3	5