

GTÜ Biyomühendislik Ders Programı

1. Yıl Güz Dönemi

Kod	Ders	ECTS	GTÜ	T	U	L	Türü
MATH 101	Calculus I	7	5	4	2	0	TB
PHYS 121	Physics I	6	4	4	0	0	TB
PHYS 151	Physics Laboratory I	1	1	0	0	2	TB
CHEM 101	General Chemistry I	5	3	3	0	0	TB
CHEM 113	General Chemistry Laboratory	1	1	0	0	2	TB
MBG 101	Principles of Biology	5	4	4	0	0	TB
MBG 103	Principles of Biology Laboratory	2	1	0	0	2	TB
TUR 101	Turkish I	2	2	2	0	0	SOS
BENG 100	Bioengineering Orientation	1	1	0	2	0	TM
Dönem Toplamı		30	22				

1. Yıl Bahar Dönemi

Kod	Ders	ECTS	GTÜ	T	U	L	Türü
MATH 102	Calculus II	7	5	4	2	0	TB
PHYS 122	Physics II	6	4	4	0	0	TB
PHYS 152	Physics Laboratory II	1	1	0	0	2	TB
MATH 116	Linear Algebra	5	3	3	0	0	TB
CHEM 106	Organic Chemistry I	5	3	3	0	0	TB
TUR 102	Turkish II	2	2	2	0	0	SOS
BENG 101	Fundamentals of Bioengineering	4	3	3	0	0	TM
Dönem Toplamı		30	21				

2. Yıl Güz Dönemi

Kod	Ders	ECTS	GTÜ	T	U	L	Türü
MATH 215	Differential Equations I	5	3	2	2	0	TB
	Principles Of Atatürk And The History Of						
SSTR 101	Turkish Revolution I	2	2	2	0	0	SOS
	Non-Technical Elective I	3	3	3	0	0	TM
BENG 215	Python for Bioengineers	6	3	2	0	2	TB
BENG 201	Physical chemistry	4	3	3	0	0	TB
BENG 211	Mass and Energy Balances	6	3	3	0	0	TM
BENG 223	Molecular Biology of the Cell	5	3	3	0	0	TB
Dönem Toplamı		31	20				

2. Yıl Bahar Dönemi

Kod	Ders	ECTS	GTÜ	T	U	L	Türü
MATH 214	Numerical Methods	5	3	3	0	0	TB
	Principles Of Atatürk And The History Of						
SSTR 102	Turkish Revolution II	2	2	2	0	0	SOS
ENGL 112	Academic English	2	2	2	0	0	SOS
BENG 212	Thermodynamics for Bioengineering	5	3	3	0	0	TM
BENG 214	Fluid Mechanics	6	3	3	0	0	TM
BENG 222	Biochemistry	5	3	3	0	0	TB
BENG 232	Fundamentals of Biomaterials	4	3	3	0	0	TM
Dönem Toplamı		29	19				

3. Yıl Güz Dönemi

Kod	Ders	ECTS	GTÜ	T	U	L	Türü
ENG 300	Summer Practice I	1	0,5	0	1	0	TM
ENG 401	Occupational Health and Safety I	1	1	1	0	0	TM
ENGL 111	Business English	2	2	2	0	0	SOS
	Free Elective I	2	2	0	0	0	SOS
BENG 301	Bioengineering Laboratory I	4	2	0	0	4	TM
BENG 311	Heat and Mass Transfer in	6	3	3	0	0	TM
BENG 323	Fundamentals of Biotechnology	5	3	3	0	0	TB
BENG 331	Biostatistics	5	3	3	0	0	TM
BENG 4XX	Department Elective I	5	3	3	0	0	TM
Dönem Toplamı		31	19,5				

3. Yıl Bahar Dönemi

Kod	Ders	ECTS	GTÜ	T	U	L	Türü
ENG 402	Occupational Health and Safety II	1	1	1	0	0	TM
	Non-Technical Elective II	3	3	3	0	0	SOS
BENG 302	Bioengineering Laboratory II	4	2	0	0	4	TM
BENG 312	Bioreactors and Reaction Kinetics	6	3	3	0	0	MT
BENG 314	Mathematical Modelling & Control in	6	3	3	0	0	MT
BENG 316	Bioseparation	5	3	3	0	0	TM
BENG 332	Fundamentals of Biomechanics	4	3	3	0	0	TM
Dönem Toplamı		29	18				

4. Yıl Güz Dönemi

Kod	Ders	ECTS	GTÜ	T	U	L	Türü
BENG 4XX	Department Elective III	3	3	0	0	0	TM
ENG 400	Summer Practice II	1	0,5	0	1	0	TM
BENG 411	Bioengineering Design	8	3	3	0	0	MT
BENG 433	Biomedical Engineering and Physiology	5	3	3	0	0	TM
BENG 491	Graduation Project I	6	4	4	0	0	TM
BENG 4XX	Department Elective II	5	3	3	0	0	TM
Dönem Toplamı		29	16,5				

4. Yıl Bahar Dönemi

Kod	Ders	ECTS	GTÜ	T	U	L	Türü
BENG 492	Graduation Project II	6	4	4	0	0	TM
BYM 3XX	Technical Elective I	4	3	0	0	0	TM
BENG 4XX	Department Elective IV	5	3	3	0	0	TM
BENG 4XX	Department Elective V	5	3	3	0	0	TM
BENG 4XX	Department Elective VI	5	3	3	0	0	TM
BENG 4XX	Department Elective VII	5	3	3	0	0	TM
Dönem Toplamı		31	19				

Alternatif 8. Dönem

Dönemi	Ders Kodu	Ders Adı	AKIS Kredisi	GTÜ Kredisi	T+U+L
8	BENG 492	Graduation Project II	6	4	
8	ENG498	Industrial Applications	24	12	
Dönem Sonu Toplamı			30	16	

Akreditasyon Ölçütleri ile Uyum Göstergeleri

Toplam ECTS	240	155
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Ön şart Kuralları

Ders kodu ve adı	Ön şart dersi
BENG212 Thermodynamics for Bioengineering	BENG 201 Physicochemistry
BENG214 Fluid Mechanics	MATH215 Differential Equations I
BENG311 Heat and Mass Transfer in Bioengineering	BENG 211 Mass and Energy Balances
BENG 314 Bioengineering	INF 215 Introduction to Computing
	MATH 215 Differential Equations I
BENG411 Bioengineering Design	BENG 211 Mass and Energy Balances
BENG491 Graduation Project I	
BENG492 Graduation Project II	BENG 301 Bioengineering Laboratory I
Non-Technical Elective	
ENG 250 Economics	3 3 0 0 TM
ENG 251 Methodology of Science	3 3 0 0 TM
ENG 451 Entrepreneurship	3 2 0 0 TM
ENG 255 Technical Writing	3 2 0 0 TM

Departmental Elective		ECTS	T	U	L	Türü
BENG 361	Enzyme Engineering	5	3	0	0	TM
BENG 454	Optimization in Bioengineering	5	3	0	0	TM
BENG 456	Biopolymers	5	3	0	0	TM
BENG 458	Bioinformatics and Systems Biology Laboratory	5	3	0	0	TM
BENG 460	Advanced Methods in Yeast Genetics	5	3	0	0	TM
BENG 462	Fundamental Methods for Biofabrication	5	3	0	0	TM
BENG 464	Advanced Bioprocess Design	5	3	0	0	TM
BENG 466	Biochemical Engineering	5	3	0	0	TM
BENG 468	Medical Biotechnology	5	3	0	0	TM
BENG 470	Microbiology in Bioengineering	5	3	0	0	TM

BENG 472	Omics Technologies	5	3	0	0	TM
BENG 232	Biomaterials Applications	5	3	0	0	TM
BENG 441	Enzyme Biotechnology	5	3	0	0	TM
BENG 431	Computational Systems Biology	5	3	0	0	TM
BENG 435	Introduction to Bioinformatics	5	3	0	0	TM