



Alanya Alaaddin Keykubat Üniversitesi
RAFET KAYIS FACULTY OF ENGINEERING
DEPARTMENT OF GENETICS AND BIOENGINEERING
GENETİK VE BİYOMÜHENDİSLİK (İNG.)

1.Semester Course Plan				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
GBM 101	BIOLOGY I	3+0+0	Compulsory	7
GBM 101L	BIOLOGY I LAB	0+2+0	Compulsory	2
GBM 103	PHYSICS I	3+0+1	Compulsory	5
GBM 105	MATHEMATICS I	4+0+0	Compulsory	5
GBM 107	CHEMISTRY	3+0+0	Compulsory	4
GBM 107L	CHEMISTRY LAB	0+2+0	Compulsory	1
GBM 109	INT. TO COMP. AND INFO. SYSTEMS	1+1+0	Compulsory	2
GBM 111	ENGINEERING ETHICS	1+0+0	Compulsory	2
TDB 101	TURKISH LANGUAGE I	2+0+0	Compulsory	2
Total ECTS				30

2.Semester Course Plan				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
GBM 102	INT. TO SCIENTIFIC PROGRAMMING	2+2+0	Compulsory	4
GBM 104	INT. TO GENETICS AND BIOENGINEERING	2+0+0	Compulsory	3
GBM 106	BIOLOGY II	3+0+0	Compulsory	7
GBM 106L	BIOLOGY II LAB	0+2+0	Compulsory	2
GBM 108	MATHEMATICS II	4+0+0	Compulsory	5
GBM 110	PHYSICS II	3+0+1	Compulsory	5
TDB 102	TURKISH LANGUAGE II	2+0+0	Compulsory	2
SEC 102	ELECTIVE COURSE I (OUT OF AREA)	2+0+0	Elective	2
Total ECTS				30

Course Groups				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
KRP 101	CARRIER PLANNING	2+0+0	Elective	2
SEC 102.1	HISTORY OF ART	2+0+0	Elective	2
SEC 102.10	BASKETBALL	2+0+0	Elective	2
SEC 102.11	TENNIS	2+0+0	Elective	2
SEC 102.12	TABLE TENNIS	2+0+0	Elective	2
SEC 102.13	FOLK DANCES	2+0+0	Elective	2
SEC 102.14	MUSIC CULTURE	2+0+0	Elective	2
SEC 102.15	ARTS&PAINTING	2+0+0	Elective	2
SEC 102.16	THEATRE AND CINEMA	2+0+0	Elective	2
SEC 102.17	HEALTHY LIVING	2+0+0	Elective	2
SEC 102.18	NUTRITION	2+0+0	Elective	2
SEC 102.19	MEDIA LITERACY	2+0+0	Elective	2
SEC 102.2	HISTORY AND PHILOSOPHY OF SCIENCE	2+0+0	Elective	2
SEC 102.20	MATHEMATICAL ESTHETICS	2+0+0	Elective	2
SEC 102.21	INDUSTRIAL DESIGN	2+0+0	Elective	2
SEC 102.22	BASIC PHOTOGRAPHY	2+0+0	Elective	2
SEC 102.23	SURFING	2+0+0	Elective	2
SEC 102.24	JAPANESE I	2+0+0	Elective	2
SEC 102.25	JAPANESE II	2+0+0	Elective	2
SEC 102.26	MYTHOLOGY	2+0+0	Elective	2
SEC 102.27	ANCIENT CITY	2+0+0	Elective	2
SEC 102.28	SOCIOLOGY	2+0+0	Elective	2
SEC 102.29	PHILOSOPHY	2+0+0	Elective	2
SEC 102.3	DISASTER AWARENESS	2+0+0	Elective	2
SEC 102.30	ANCIENT DNA: HISTORY OF THE PAST	2+0+0	Elective	2
SEC 102.31	GENETIC HERITAGE	2+0+0	Elective	2
SEC 102.32	MODERN GENETIC APPLICATIONS: GENE CLONING	2+0+0	Elective	2
SEC 102.33	FOOD AND FOOD CULTURE	2+0+0	Elective	2
SEC 102.34	DIET AND HEALTH	2+0+0	Elective	2
SEC 102.35	TRADITIONAL FOODS	2+0+0	Elective	2
SEC 102.36	ORGANIC AGRICULTURE	2+0+0	Elective	2
SEC 102.4	ELOQUENT SPEECH	2+0+0	Elective	2
SEC 102.5	BASIC FIRST AID AND EMERGENCY	2+0+0	Elective	2
SEC 102.6	ARCHERY	2+0+0	Elective	2
SEC 102.7	BOXING, KARATE AND TAEKWONDO	2+0+0	Elective	2
SEC 102.8	FOOTBALL	2+0+0	Elective	2

SEC 102.9	VOLLEYBALL	2+0+0	Elective	2
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3.Semester Course Plan

Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
ATA 101	PRINCIPLES OF ATATURK AND TURKISH REVOLUTION HISTORY I	2+0+0	Compulsory	2
GBM 203	CELL BIOLOGY	3+0+0	Compulsory	5
GBM 203L	CELL BIOLOGY LAB	0+2+0	Compulsory	2
GBM 205	GENETICS	3+0+0	Compulsory	4
GBM 207	DIFFERENTIAL EQUATIONS	4+0+0	Compulsory	5
GBM 209	THERMODYNAMICS	3+0+0	Compulsory	5
GBM 211	ORGANIC CHEMISTRY	2+0+0	Compulsory	5
SEC 201	ELECTIVE COURSE II (OUT OF AREA)	2+0+0	Elective	2
			Total ECTS	30
Course Groups				
SEC 201.1	HISTORY OF ART	2+0+0	Elective	2
SEC 201.10	BASKETBALL	2+0+0	Elective	2
SEC 201.11	TENNIS	2+0+0	Elective	2
SEC 201.12	TABLE TENNIS	2+0+0	Elective	2
SEC 201.13	FOLK DANCES	2+0+0	Elective	2
SEC 201.14	MUSIC CULTURE	2+0+0	Elective	2
SEC 201.15	ARTS&PAINTING	2+0+0	Elective	2
SEC 201.16	THEATRE AND CINEMA	2+0+0	Elective	2
SEC 201.17	HEALTHY LIVING	2+0+0	Elective	2
SEC 201.18	NUTRITION	2+0+0	Elective	2
SEC 201.19	MEDIA LITERACY	2+0+0	Elective	2
SEC 201.2	HISTORY AND PHILOSOPHY OF SCIENCE	2+0+0	Elective	2
SEC 201.20	MATHEMATICAL ESTHETICS	2+0+0	Elective	2
SEC 201.21	INDUSTRIAL DESIGN	2+0+0	Elective	2
SEC 201.22	BASIC PHOTOGRAPHY	2+0+0	Elective	2
SEC 201.23	SURFING	2+0+0	Elective	2
SEC 201.24	JAPANESE I	2+0+0	Elective	2
SEC 201.25	JAPANESE II	2+0+0	Elective	2
SEC 201.26	MYTHOLOGY	2+0+0	Elective	2
SEC 201.27	ANCIENT CITY	2+0+0	Elective	2
SEC 201.28	SOCIOLOGY	2+0+0	Elective	2
SEC 201.29	PHILOSOPHY	2+0+0	Elective	2
SEC 201.3	DISASTER CONSCIOUSNESS	2+0+0	Elective	2
SEC 201.30	ANCIENT DNA: HISTORY OF THE PAST	2+0+0	Elective	2
SEC 201.31	GENETIC HERITAGE	2+0+0	Elective	2
SEC 201.32	MODERN GENETIC APPLICATIONS: GENE CLONING	2+0+0	Elective	2
SEC 201.33	FOOD AND FOOD CULTURE	2+0+0	Elective	2
SEC 201.34	DIET AND HEALTH	2+0+0	Elective	2
SEC 201.35	TRADITIONAL FOODS	2+0+0	Elective	2
SEC 201.36	ORGANIC AGRICULTURE	2+0+0	Elective	2
SEC 201.37	WESTERN CIVILIZATION HISTORY I	2+0+0	Elective	2
SEC 201.4	ELOQUENT SPEECH	2+0+0	Elective	2
SEC 201.5	BASIC FIRST AID AND EMERGENCY TRAINING	2+0+0	Elective	2
SEC 201.6	ARCHERY	2+0+0	Elective	2
SEC 201.7	BOXING, KARATE AND TAEKWONDO	2+0+0	Elective	2
SEC 201.8	FOOTBALL	2+0+0	Elective	2
SEC 201.9	VOLLEYBALL	2+0+0	Elective	2

4.Semester Course Plan

Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
ATA 102	PRINCIPLES OF ATATURK AND TURKISH REVOLUTION HISTORY II	2+0+0	Compulsory	2
GBM 202	BIOMATERIALS	3+0+0	Compulsory	3
GBM 204	MOLECULAR BIOLOGY AND GENETICS	3+0+0	Compulsory	4
GBM 206	MICROBIOLOGY	2+0+2	Compulsory	5
GBM 208	HEAT AND MASS TRANSFER	3+0+0	Compulsory	4
GBM 210	PROB. AND STATISTICS	2+2+0	Compulsory	4
GBM 212	BIOCHEMISTRY I	3+0+0	Compulsory	4
SEC 202	ELECTIVE COURSE III (OUT OF AREA)	3+0+0	Elective	4
			Total ECTS	30
Course Groups				
SEC 202.1	REPORT WRITING AND PRESENTATION SKILLS	3+0+0	Elective	4
SEC 202.2	TRENDS IN FOOD SCIENCE	3+0+0	Elective	4
SEC 202.3	WASTE MANAGEMENT AND SUSTAINABILITY	3+0+0	Elective	4

5.Semester Course Plan

Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
GBM 301	BIOREACTORS	3+0+0	Compulsory	4
GBM 303	BIOTECHNOLOGY	3+0+0	Compulsory	4
GBM 305	GENETIC ENGINEERING I	3+0+0	Compulsory	6
GBM 305L	GENETIC ENGINEERING I LAB	0+0+4	Compulsory	2
GBM 307	BIOCHEMISTRY II	3+0+0	Compulsory	4
SEC 301	ELECTIVE COURSE IV (TECHNICAL COURSE)	3+0+0	Elective	10

Total ECTS 30

Course Groups

SEC 301.1	CYTOGENETICS	3+0+0	Elective	5
SEC 301.2	CANCER BIOLOGY	3+0+0	Elective	5
SEC 301.3	FLUID MECHANICS	3+0+0	Elective	5
SEC 301.4	GENETIC DISORDERS	3+0+0	Elective	5
SEC 301.5	FUNCTIONAL FOODS	3+0+0	Elective	5
SEC 301.6	EPIGENETICS	3+0+0	Elective	5

6.Semester Course Plan

Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
GBM 302	GENETIC ENGINEERING II	3+0+0	Compulsory	6
GBM 302L	GENETIC ENGINEERING II LAB	0+0+4	Compulsory	3
GBM 304	SEPARATION AND PURIFICATION PROCESSES	2+0+0	Compulsory	2
GBM 306	MOLECULAR CELL BIOLOGY	3+0+0	Compulsory	5
GBM 308	INTERNSHIP	0+0+0	Compulsory	5
SEC 302	ELECTIVE COURSE V (TECHNICAL COURSE)	3+0+0	Elective	10
SEC 304	ELECTIVE COURSE VI (OUT OF AREA)	3+0+0	Elective	4

Total ECTS 35

Course Groups

SEC 302.1	MICROBIAL AND VIRAL GENETICS	3+0+0	Elective	5
SEC 302.2	NEUROBIOLOGY	3+0+0	Elective	5
SEC 302.3	DEVELOPMENTAL BIOLOGY	3+0+0	Elective	5
SEC 302.4	NUTRITION IN HEALTH AND DISEASE	3+0+0	Elective	5
SEC 302.5	TOXICOLOGY	3+0+0	Elective	5
SEC 302.6	IMMUNOLOGY	3+0+0	Elective	5
SEC 304.1	SCIENTIFIC RESEARCH METHODS	3+0+0	Elective	4
SEC 304.2	TECHNOLOGY AND R&D	3+0+0	Elective	4
SEC 304.3	BUSINESS PLANNING	3+0+0	Elective	4
SEC 304.4	ENTREPRENEURSHIP	3+0+0	Elective	4

7.Semester Course Plan

Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
GBM 401	GENETICS AND BIOENGINEERING DESIGN	0+2+0	Compulsory	4
GBM 403	BIOINFORMATICS	3+0+0	Compulsory	7
ISG 401	OCCUP. HEALTH AND SAFETY I	2+0+0	Compulsory	2
SEC 401	ELECTIVE COURSE VII (OUT OF AREA)	2+0+0	Elective	2
SEC 403	ELECTIVE COURSE VIII (DESIGN COURSE)	3+0+0	Elective	15

Total ECTS 30

Course Groups

SEC 401.1	HISTORY OF ART	2+0+0	Elective	2
SEC 401.10	BASKETBALL	2+0+0	Elective	2
SEC 401.11	TENNIS	2+0+0	Elective	2
SEC 401.12	TABLE TENNIS	2+0+0	Elective	2
SEC 401.13	FOLK DANCES	2+0+0	Elective	2
SEC 401.14	MUSIC CULTURE	2+0+0	Elective	2
SEC 401.15	ARTS&PAINTING	2+0+0	Elective	2
SEC 401.16	THEATRE AND CINEMA	2+0+0	Elective	2
SEC 401.17	HEALTHY LIVING	2+0+0	Elective	2
SEC 401.18	NUTRITION	2+0+0	Elective	2
SEC 401.19	MEDIA LITERACY	2+0+0	Elective	2
SEC 401.2	HISTORY AND PHILOSOPHY OF SCIENCE	2+0+0	Elective	2
SEC 401.20	MATHEMATICAL ESTHETICS	2+0+0	Elective	2
SEC 401.21	INDUSTRIAL DESIGN	2+0+0	Elective	2
SEC 401.22	BASIC PHOTOGRAPHY	2+0+0	Elective	2
SEC 401.23	SURFING	2+0+0	Elective	2
SEC 401.24	JAPANESE I	2+0+0	Elective	2
SEC 401.25	JAPANESE II	2+0+0	Elective	2
SEC 401.26	MYTHOLOGY	2+0+0	Elective	2
SEC 401.27	ANCIENT CITY	2+0+0	Elective	2
SEC 401.28	SOCIOLOGY	2+0+0	Elective	2
SEC 401.29	PHILOSOPHY	2+0+0	Elective	2

SEC 401.3	DISASTER AWARENESS	2+0+0	Elective	2
SEC 401.30	ANCIENT DNA: HISTORY OF THE PAST	2+0+0	Elective	2
SEC 401.31	GENETIC HERITAGE	2+0+0	Elective	2
SEC 401.32	MODERN GENETIC APPLICATIONS: GENE CLONING	2+0+0	Elective	2
SEC 401.33	FOOD AND FOOD CULTURE	2+0+0	Elective	2
SEC 401.34	DIET AND HEALTH	2+0+0	Elective	2
SEC 401.35	TRADITIONAL FOODS	2+0+0	Elective	2
SEC 401.36	ORGANIC AGRICULTURE	2+0+0	Elective	2
SEC 401.37	WESTERN CIVILIZATION HISTORY I	2+0+0	Elective	2
SEC 401.4	ELOQUENT SPEECH	2+0+0	Elective	2
SEC 401.5	BASIC FIRST AID AND EMERGENCY	2+0+0	Elective	2
SEC 401.6	ARCHERY	2+0+0	Elective	2
SEC 401.7	BOXING, KARATE AND TAEKWONDO	2+0+0	Elective	2
SEC 401.8	FOOTBALL	2+0+0	Elective	2
SEC 401.9	VOLLEYBALL	2+0+0	Elective	2
SEC 403.1	CELL CULTURE TECHNIQUES	3+0+0	Elective	5
SEC 403.2	PHARMACOGENETICS	3+0+0	Elective	5
SEC 403.3	INDUSTRIAL BIOTECHNOLOGY	3+0+0	Elective	5
SEC 403.4	CLINICAL BIOCHEMISTRY	3+0+0	Elective	5
SEC 403.5	GENOMICS AND PROTEOMICS	3+0+0	Elective	5
SEC 403.6	PLANT BIOTECHNOLOGY	3+0+0	Elective	5

8.Semester Course Plan

Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
GBM 402	GRADUATION PROJECT	0+6+0	Compulsory	8
GBM 404	NANOTECHNOLOGY	3+0+0	Compulsory	6
ISG 402	OCCUP. HEALTH AND SAFETY II	1+0+0	Compulsory	1
SEC 402	ELECTIVE COURSE IX (DESIGN COURSE)	3+0+0	Elective	15
			Total ECTS	30
Course Groups				
SEC 402.1	MOLECULAR SIGNALING PATHWAYS AND CANCER	3+0+0	Elective	5
SEC 402.2	BIOSENSORS	3+0+0	Elective	5
SEC 402.3	GENE THERAPY	3+0+0	Elective	5
SEC 402.4	MOLECULAR PHARMACOLOGY	3+0+0	Elective	5
SEC 402.5	STEM CELLS	3+0+0	Elective	5
SEC 402.6	NUTRACEUTICALS	3+0+0	Elective	5
SEC 402.7	DRUG DELIVERY SYSTEMS	3+0+0	Elective	5