DEPARTMENT OF MOLECULAR BIOLOGY & GENETICS
UNDERGRADUATE CURRICULUM

Abbreviations: T=Weekly hours: theoretical; P=Weekly hours: practice; ECTS= European Credit Transfer System

Semester-1

Code	Course Title	T	P	ECTS	Status
UNIV 1001	English I	3	0	4	Required
CENG 1003	Introduction to Programming I	2	0	3	Required
FANS 1001	Mathematics I	3	0	4	Required
FANS 1003	Physics I	2	2	4	Required
FANS 1005	Chemistry I	2	2	4	Required
GENE 1001	Biology	3	4	4	Required
UNIV 1017	Occupational Health & Safety	2	0	3	Required
UNIV 1015	Turkish Language & Literature I	2	0	2	Required
FANS 1009	Social Responsibility	0	2	2	Required
	TOTAL CREDIT			**30**	

Semester-2

Code	Course Title	T	P	ECTS	Status
UNIV 1002	English II	3	0	4	Required
CENG 1004	Introduction to Programming II	2	0	3	Required
FANS 1002	Mathematics II	3	0	4	Required
FANS 1004	Physics II	2	2	4	Required
FANS 1006	Chemistry II	2	2	5	Required
GENE 1002	Introduction to Molecular Biology	3	0	6	Required
UNIV 1024	Carrier Planning	2	0	2	Required
UNIV 1016	Turkish Language & Literature II	2	0	2	Required
	TOTAL CREDIT			**30**	

Semester-3

Code	Course Title	T	P	ECTS	Status
GENE 2001	Molecular Biology of the Cell I	3	0	5	Required
GENE 2011	Analytical Chemistry	4	0	5	Required
GENE 2013	Analytical Chemistry Laboratory	0	4	4	Required
FANS 2005	Statistics	3	0	5	Required
GENE 2015	Scientific Writing & Presentation Skills	2	0	5	Required
ECOD 2013	Introduction to Economics	3	0	4	Required
UNIV 2007	Principles of Atatürk & History of Turkish Revolution I	2	0	2	Required
	TOTAL CREDIT			**30**	

Semester-4

Code	Course Title	T	P	ECTS	Status
GENE 2002	Molecular Biology of the Cell II	3	0	5	Required
GENE 2004	Genetics	3	0	5	Required
GENE 2006	Genetics Laboratory	0	4	4	Required
GENE 2012	Organic Chemistry	4	0	5	Required
GENE 2014	Organic Chemistry Laboratory	0	4	4	Required
UNIV 2008	Principles of Ataturk and History of Turkish Revolution II	2	0	2	Required
GENE 2000	Practical Training I	0	0	5	Required
	TOTAL CREDIT			**30**	

Semester-5

Code	Course Title	T	P	ECTS	Status
GENE 3001	Biochemistry I	4	0	5	Required
GENE 3003	Microbiology	3	0	5	Required
GENE 3005	Microbiology Laboratory	0	4	4	Required
GENE 3007	Molecular Genetics Laboratory I	0	4	3	Required
GENE 3015	Ecology	3	0	3	Required
	ELECTIVE	3	0	5	Elective
	ELECTIVE	3	0	5	Elective
	TOTAL CREDIT			**30**	

Semester-6

Code	Course Title	T	P	ECTS	Status
GENE 3002	Biochemistry II	4	0	5	Required
GENE 3004	Biochemistry Laboratory	0	4	4	Required
GENE 3006	Recombinant DNA Technologies	3	0	5	Required
GENE 3008	Molecular Genetics Laboratory II	0	4	3	Required
GENE 3012	Physiology	3	0	3	Required
GENE 3000	Practical Training II	0	0	5	Required
	ELECTIVE	3	0	5	Elective
	TOTAL CREDIT			**30**	

Semester-7

Code	Course Title	T	P	ECTS	Status
GENE 4001	Bioinformatics	3	0	5	Required
GENE 4003	Biomaterials	3	0	5	Required
-	ELECTIVE	-	-	20	Elective
	TOTAL CREDIT			**30**	

Semester-8

Code	Course Title	T	P	ECTS	Status
GENE 4002	Current Topics in Molecular Biology	3	0	5	Required
GENE 4902	Graduation Project	3	0	5	Required
-	ELECTIVE	-	-	20	Elective
	TOTAL CREDIT			**30**	

TOTAL ECTS	**240**	
COMPULSORY ECTS	**185**	**77%**
ELECTIVE ECTS	**55**	**23%**

DEPARTMENT OF MOLECULAR BIOLOGY & GENETICS
UNDERGRADUATE CURRICULUM (ELECTIVES)

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Fall Semesters

Code	Course Title	T	P	ECTS	Status
GENE 3009	Methods in Molecular Biology	3	0	5	Elective
GENE 3011	Human Physiology	3	0	5	Elective
GENE 3013	RNA Biology	3	0	5	Elective
GENE 4005	Advanced Topics in Molecular Biology	3	0	5	Elective
GENE 4007	Applications in Microbiology & Biotechnology	3	0	5	Elective
GENE 4009	Advanced Microbiology	3	0	5	Elective
GENE 4011	Biotechnology	3	0	5	Elective
GENE 4013	Cancer Biology	3	0	5	Elective
GENE 4015	Introduction to Drug Delivery and Targeting	3	0	5	Elective
GENE 4017	Chemical Biology	3	0	5	Elective
GENE 4019	Molecular Diagnostics	3	0	5	Elective
GENE 4021	Plant Molecular Genetics	3	0	5	Elective
GENE 4023	Stem Cell Biology	3	0	5	Elective
GENE 4025	Developmental Biology	3	0	5	Elective
GENE 4027	Introduction to Neurobiology	3	0	5	Elective
GENE 4029	Molecular Medicine	3	0	5	Elective
GENE 4031	DNA Damage & Repair Mechanisms	3	0	5	Elective
GENE 4033	Biology of Infections	3	0	5	Elective
[elective courses with applications]					
GENE 4903	Special Studies in Molecular Biology & Genetics I	0	6	5	Elective
GENE 4905	Special Studies in Plant Biology & Genetics I	0	6	5	Elective
GENE 4907	Special Studies in Microbiology I	0	6	5	Elective
	TOTAL CREDIT	**105**			

Spring Semesters

Code	Course Title	T	P	ECTS	Status
GENE 3010	Introduction to Immunology	3	0	5	Elective
GENE 3014	RNA Transcription & Regulation	3	0	5	Elective
GENE 4004	Advanced Topics in Molecular Biology & Genetics	3	0	5	Elective
GENE 4006	Microbial Biotechnology	3	0	5	Elective
GENE 4008	Molecular Microbiology	3	0	5	Elective
GENE 4010	Biotechnology Applications	3	0	5	Elective
GENE 4012	Biology of Cancer	3	0	5	Elective
GENE 4014	Drug Delivery and Targeting	3	0	5	Elective
GENE 4016	Advanced Chemical Biology	3	0	5	Elective
GENE 4018	Molecular Diagnostics Applications	3	0	5	Elective
GENE 4020	Plant Genetics & Recombinant Technologies	3	0	5	Elective
GENE 4022	Stem Cell Biology & Applications	3	0	5	Elective
GENE 4024	Epigenetics	3	0	5	Elective
GENE 4026	Neurobiology	3	0	5	Elective
GENE 4028	Biological Applications of Biomaterials	3	0	5	Elective
GENE 4030	Tissue Engineering & Regenerative Medicine	3	0	5	Elective
GENE 4032	Infectious Diseases	3	0	5	Elective
GENE 4034	Secondary Metabolism	3	0	5	Elective
[elective courses with applications]					
GENE 4904	Special Studies in Molecular Biology & Genetics II	0	6	5	Elective
GENE 4906	Special Studies in Plant Biology & Genetics II	0	6	5	Elective
GENE 4908	Special Studies in Microbiology II	0	6	5	Elective
	TOTAL CREDIT	**105**			