EUKARYOTIC MOLECULAR GENETICS

1	Course Title:	EUKARYOTIC MOLECULAR GENETICS
2	Course Code:	BIO6405
3	Type of Course:	Optional
4	Level of Course:	Third Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	5.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. SEZAİ TÜRKEL
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	0224 294 1782 / e-posta: sturkel@uludag.edu.tr
17	Website:	
18	Objective of the Course:	To understand the structure, organization and control mechanisms of gene expression in eukaryotic genes.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Knows kromatin structure and organisation in eukaryotes.
	2	Knows gene structure and organisation in eukaryotes.
	3	Knows control mechanisms in gene clusters in eukaryotes.
	4	Knows the effects of cellular and environmental signals on gene expresion in eukaryotes.
	5	Knows how to analyze current data on eukaryotic gene expression by means of bioinformatic tools.
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Genome organization and genome analysis methods in eukaryotes.	
2	Structure and organization of eukaryotic kromatins, histone modifications.	
3	Control mechanisms of DNA replication	
4	RNA polymerases, control mechanisms of transcription.	

5	RNA processing	
6	Post transcriptional regulation	
7	Control mechanisms by RNA localization and stability.	
8	Repeating courses and midterm exam	
9	Genetic code, translation initiation in eukaryotes.	
10	Translational regfulation .	
11	Homework. Discussion of homework and presentation, assignments of topics.	
12	DNA repair in eukaryotes, .	
13	Genome structure and regulation of organel genes	
14	Maternal genes and omic studies	

22	Textbooks, References and/or Other Materials:	1. B. Lewin. Genes IX. Jones and Bartlett Publishers. 2.. Selected articles from Cell., Science., Molecular and Cellular Biology, Eukaryotic Cell journals.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	25.00
Quiz	0	0.00
Home work-project	1	25.00
Contribution of Term (Year) Learning Activities to Success Grade		50.00
Contribution of Final Exam to Success Grade		50.00
Measurement and Evaluation Techniques Used in the Course		

24 ECTS / WORK LOAD TABLE

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	4.00	56.00
Homeworks	1	27.00	27.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	25.00	25.00
Others	0	0.00	0.00
Final Exams	1	30.00	30.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			5.00

25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS

	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	5	3	0	0	0	0	4	0	0	0	0	0	0	0	0	0
ÖK2	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	0	4	0	3	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	3	0	0	4	4	0	0	0	0	0	0	0	0

ÖK5	5	3	0	0	3	0	5	0	4	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications					
Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**