

NUCLEIC ACIDS METABOLISM

1	Course Title:	NUCLEIC ACIDS METABOLISM	
2	Course Code:	BIO5408	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	6.00	
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:	Doç. Dr. EGEMEN DERE	
15	Course Lecturers:	Prof. Dr. Ferda ARI	
16	Contact information of the Course Coordinator:	Doç. Dr. Egemen DERE Bursa Uludağ Üniversitesi Fen Ed. Fak Biyoloji Bl. Moleküler Biyoloji Anabilim Dalı Tel: 0 224 41792 edere@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	The aim of the course is to comprehend the structure of DNA and RNA, the synthesis and destruction of nucleic acids. It is to provide understanding the metabolic importance of nucleic acids to students. Thus, we are targeted to be more successful the problems with regard to nucleic acids faced by the student's graduate studies.	
19	Contribution of the Course to Professional Development:	DNA and RNA form the basis of the vital functions of the cell. Understanding the structure and function of nucleic acids and how they are affected by internal and external factors will enable students to better comment on their research topics.	
20	Learning Outcomes:		
		1	Students can grasp the molecular structures and organizations of nucleic acid
		2	Students can compare different models of DNA and RNA in life
		3	Students can understand purin and pyrimidine synthesis
		4	Students can compare replication models in prokaryotic and eukaryotic organisms
		5	Students can understand DNA mutation
		6	Students can understand repair mechanism
		7	Students can grasp the functions of Chloroplast and Mitochondrial DNA
		8	Students can understand metabolism disorders of nucleic acids
		9	
		10	
21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	

1	Structure of nucleic acids modify bases	
2	Nucleoside and nucleotide, Digestion of nucleotide	
3	Purine biosynthesis and regulation of synthesis	
4	Purine catabolism	
5	Pyrimidine biosynthesis and regulation of synthesis	
6	Pyrimidine catabolism	
7	Exam and answer of examination questions, general discussion	
8	Polynucleotide -DNA and RNA-	
9	Analysis of nucleic acids	
10	DNA replication	
11	Mutations	
12	Repair mechanisms	
13	Chloroplast and Mitochondrial DNA	
14	Purine and pyrimidine metabolism disorders	

22	Textbooks, References and/or Other Materials:	Molecular Biology of the Cell, Alberts –Bray Nucleic Acids, Victor A. Bloomfield
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23	Assesment	
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Activites			Number	Duration (hour)	Total Work Load (hour)
Quizzes	0	0.00	0.00	3.00	42.00
Practicals/Labs		0	0.00	0.00	0.00
Final Exam	1	60.00	1.00	8.00	112.00
Self study and preperation					
Homeworks		4	6.00	24.00	
Contribution of Term (Year) Learning Activities to Success Grade		40.00	0.00	0.00	0.00
Field Studies		0	0.00	0.00	0.00
Contribution of Final Exam to Success Grade		60.00	1.00	3.00	3.00
Midterm exams					
Others		0	0.00	0.00	0.00
Measurement and Evaluation Techniques Used in the Homework, oral and class room exam			3.00	3.00	3.00
Total Work Load					184.00
24. ECTS / WORK LOAD TABLE					
Total work load/ 30 hr					6.13
ECTS Credit of the Course					6.00

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	3	0	3	4	3	5	2	2	2	0	0	0	0	0	0	0
ÖK2	3	0	3	4	3	5	2	2	2	0	0	0	0	0	0	0
ÖK3	4	0	3	4	4	5	3	2	2	0	0	0	0	0	0	0
ÖK4	5	0	4	4	3	5	3	3	2	0	0	0	0	0	0	0

ÖK5	4	0	4	4	3	5	2	3	2	0	0	0	0	0	0	0
ÖK6	4	0	4	3	3	5	3	3	2	0	0	0	0	0	0	0
ÖK7	4	0	4	4	3	5	0	3	3	0	0	0	0	0	0	0
ÖK8	4	0	4	4	3	5	5	3	0	2	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			