



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Biochemistry of Nucleic Acids							
Course Code		KİM653		Couse Level		Third Cycle (Doctorate Degree)			
ECTS Credit	8	Workload	200 ( <i>Hours</i> )	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		This course is to acquaint chemistry and the other department students with fundamental concepts of biochemistry of nucleic acid.							
Course Content		Investigation of chemical structure and function of nucleic acids. DNA replication. RNA biosynthesis. Nucleic acid catabolism.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study, Individual Study					
Name of Lecturer(s)									

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	35
Assignment	3	45

### Recommended or Required Reading

1	Instructor notes
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Week	Weekly Detailed Course Contents	
1	Theoretical	Biological functions of nucleic acids
2	Theoretical	Exist of nucleic acids
3	Theoretical	Chemical structure of nucleic acids
4	Theoretical	Isolation and characterization of nucleic acids
5	Theoretical	Structure of RNA
6	Theoretical	Nucleic acids of virus
7	Theoretical	Nucleases and its relation with enzymes
8	Theoretical	Biosynthesis of Mononucleotids
9	Theoretical	Biosynthesis and replication of DNA
10	Intermediate Exam	Midterm exam
12	Theoretical	Biosynthesis and transcription of RNA
13	Theoretical	Biological functions of RNA-Protein synthesis
14	Theoretical	Catabolism of nucleic acids
15	Theoretical	Catabolism of nucleic acids
16	Final Exam	Final Exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	6	0	12	72
Midterm Examination	1	30	2	32
Final Examination	1	52	2	54
Total Workload (Hours)				200
[Total Workload (Hours) / 25*] = ECTS				8

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	Learns the structure and function of nucleic acids.
2	Knows how to isolate and characterize nucleic acids.



3	Knows about Watson and Crick model.
4	Learns about nucleic acid catabolism.
5	Knows about nucleic acid synthesis.

**Programme Outcomes (Chemistry Doctorate)**

1	Depending on the master degree competences, develops, insights and innovates current and advanced knowledge and/or research in proficiency level.
2	Gains high skill levels in using research methods in the field of his/her study.
3	Comprehends the interaction between disciplines related to his/her field. Reaches to original results using his/her expertise in order to analyze, synthesize and evaluate new and complicated ideas.
4	Enlarges the boundaries of his/her field of knowledge by publishing at least one research paper in national and/or international peer-reviewed journals.
5	Defends his/her original opinions related to his/her field before authority and communicates effectively illustrating his/her competence.
6	May communicate and debate written, orally and visually in European Language Portfolio level C1.
7	Follows the developments in computer software and information and communication technologies developed for his/her research area and uses these in order to solve research problems.
8	Collaborates for scientific research with national and international research teams.
9	Contributes to the course of creation and maintenance of knowledge based society and by introducing the scientific, social and cultural developments to the society he/she is living in.

**Contribution of Learning Outcomes to Programme Outcomes** 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	5	5	5	3	5
P3	5	4	4	2	3
P5	5		4		
P7	5		4		2

