



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Noncoding RNAs							
Course Code		BİO652		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	7	Workload	176 ( <i>Hours</i> )	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		The aim of this course is to teach function of Non-Coding RNAs and their relationship to Molecular Biology and Molecular Medicine.							
Course Content		İntrons and noncoding RNA, RNAi mechanism, snoRNAs, gene silencing, several diseases and therapeutic applications.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)									

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

### Recommended or Required Reading

1	Lecturer notes
2	Noncoding RNAs:Molecular Biology and Molecular Medicine, Jan Barciszewski ve Volker A. Erdmann. ISBN:0-306-47835-8
3	Regulatory RNAs,Bibekanand M. And Zhumur G. Eds. (2012) ISBN 978-3-642-22516-1, Springer
4	Gene Control (2010) David S. Latchman (ISBN-10: 0815365136   ISBN-13: 978-0815365136 )

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to Riboregulators
2	Theoretical	Introns and Noncoding RNAs
3	Theoretical	Computational Gene-finding for noncoding RNAs
4	Theoretical	Xist RNA andChromatin
5	Theoretical	MicroRNAs
6	Theoretical	siRNAs
7	Theoretical	Posttranscriptional gene silencing
8	Theoretical	RNA-directed methylation
9	Theoretical	Brain specific nonmessenger RNAs
10	Theoretical	snoRNA world
11	Theoretical	Short ORF-Encoding RNAs
12	Intermediate Exam	Midterm Exam
13	Theoretical	RNA and pathogenesis
14	Theoretical	Adapt gene RNA transcripts as riboregulators
15	Theoretical	Disease and Therapeutics
16	Theoretical	Future perspective
17	Final Exam	Final Exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	15	2	2	60
Assignment	2	30	2	64
Midterm Examination	1	25	1	26



Final Examination	1	25	1	26
Total Workload (Hours)				176
[Total Workload (Hours) / 25*] = ECTS				7
*25 hour workload is accepted as 1 ECTS				

### Learning Outcomes

1	Understanding of RNA-based regulators
2	Understanding of snoRNAs
3	Understanding of relation between RNA and diseases
4	Understanding of Riboregulators
5	Understanding of Gene expression

### Programme Outcomes (Biology Doctorate)

1	To have enough scientific background knowledge towards a specific study and research area
2	To have an ability to identify, evaluate and develop a solution for a problem on biological aspects
3	To be able to evaluate scientific observations and results of experiments using statistical analysis methods
4	To have basic skills in areas related to field of biological studies
5	To have the ability to develop cooperation with different disciplines with the high level of social communication required for studies
6	To have knowledge of technology and use of methods and means used in biological researches
7	To have an ethical understanding which will be a guide for their investigations and publications
8	For PhD; to have European Language Portfolio C1 general level language skill
9	To be able to present and discuss own research results in accordance with scientific discipline using technological tools in scientific research environments
10	To be able to detect and evaluate economic and social impacts of an own original research results
11	To be equipped with ability of carrying out independent study in biological field
12	To be able to publish at least one an international/national peer reviewed scientific paper and/or produce or interpret an original work related to biology in order to expand the frontiers of knowledge
13	To be able to develop new approaches or adaptations to be used in solving scientific and biological problems
14	To be able to develop new understanding and approaches in order to explain a new phenomenon or a biological event under investigation
15	To have abilities and experience to create new search area through inspiration gained from subject searched

### 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	5	5
P4	4	4	4	4	4
P5	4	4	4	4	4
P6	4	4	4	4	4
P8	5	5	5	5	5
P9	5	5	5	5	5
P10			3		
P13	5	5	5	5	5
P14	5	5	5	5	5
P15	4	4	4	4	4

