



AYDIN ADNAN MENDERES UNIVERSITY
GRADUATE SCHOOL OF HEALTH SCIENCES
MEDICAL BIOLOGY
MEDICAL BIOLOGY
MEDICAL BIOLOGY MASTER
COURSE INFORMATION FORM

Course Title	Basic Molecular Biological Methods								
Course Code	TIB502	Course Level		Second Cycle (Master's Degree)					
ECTS Credit	5	Workload	122 (Hours)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	Basic molecular biology methods education								
Course Content	"Tissue and cell extraction, extraction of cellular components, preparation of in vitro cell culture, RNA and DNA isolation, PCR, genetic diseases, genetic engineering and development, the technique of Southern Blotting, Western and Northern Blotting methods. "								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration, Discussion, Individual Study								
Name of Lecturer(s)	Assoc. Prof. Abdullah YALÇIN								

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	10
Final Examination	1	25
Practice	13	65

Recommended or Required Reading

1	Moleküler Hücre Biyolojisi – Harvey Lodish et. al. (Türkçe çeviri: Hikmet Geçkil, Murat Özmen, Özfer Yeşilada) Palme kitabevi (2011)
2	Molecular Cell Biology – Harvey Lodish, Arnold Berk, Chris A. Keiser, Monty Krieger, Anthony Bretscher, Hidde Ploegh, Angelika Amon, Mathew P. Scott - W. H. Freeman; Seventh Edition edition (May 2, 2012)
3	Molecular cloning: A laboratory manual – Michael Green and Joseph Sambrook – Cold Spring Harbor Laboratory Press (Fourth edition) 2012

Week	Weekly Detailed Course Contents	
1	Practice	Tissue or cell extraction
2	Practice	Tissue or cell extraction
3	Practice	DNA and RNA isolation
4	Practice	DNA and RNA isolation
5	Practice	Agarose gel electrophoresis
6	Practice	Agarose gel electrophoresis
7	Practice	Polyacrylamide gel electrophoresis
8	Intermediate Exam	Midterm exam
9	Practice	Western Blot
10	Practice	Western Blot
11	Practice	Southern Blot
12	Practice	Southern Blot
13	Practice	Northern Blot
14	Practice	Northern Blot
15	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	13	1	2	39
Lecture - Practice	13	1	2	39
Midterm Examination	1	20	2	22



Final Examination	1	20	2	22
Total Workload (Hours)				122
[Total Workload (Hours) / 25*] = ECTS				5
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Explain the basic learning areas
2	Learning molecular biology concepts
3	Learning molecular biology techniques
4	Acquiring skills for conducting molecular biology techniques
5	Analyze data from molecular biology techniques

Programme Outcomes (Medical Biology Master)

1	To acquire fundamental knowledge on medical biology field
2	To gain expertise on molecular biology techniques
3	To utilize molecular biology techniques
4	To be able to construct and conduct a research project
5	To be able to follow and interpret scientific advancements

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	2	2	2
P2	1	1	5	5	5
P3	1	1	5	5	5
P4	1	1	2	2	1
P5	3	3	3	2	3

