



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Methods in Molecular Biology							
Course Code		ZBK555		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	200 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The aim of this course of use of The methods used in molecular biology is to teach Biomolecules (nucleic acid RNA DNA,proteins) and isolation and analysis methods of the biomolecules.							
Course Content		Brief of history of molecular biology, molecular organization of cells, biomoleculs, Nucleic acid, structural features of nucleic acid, chemical properties of nucleic acid , physical properties of nucleic acid. Furtermore the course covers the whole of general using methods on molecular biology.DNA and RNA isolation methods from the plant materials, agorose gel electrophoresis, PAGE (polyacrylamide gel electrophoresis), Restriction endonucleases, nucleic acid hybridization, protein isolation and analysis methods.							
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	40
Final Examination	1	60

Recommended or Required Reading

1	Erkan S. 1992, Moleküler Biyoloji Doğruluk Mat. İzmir 140s.
2	Dilsiz N. 2004 Moleküler Biyoloji Palme Yayıncılık, Ankara, 220s
3	Smith and Wood 1991,Molecular Biology and Biotechnology Chapman and Hall London 247s
4	Sambrook and Russell,(2001) Molecular Clonning, Cold Spring Harbor Laboratory Press, ISBN-0-87969-577-3
5	Temizkan G.,Arda N.(Ed.)(2004),Moleküler Biyolojide Kullanılan Yöntemler,Nobel Kitapevleri, ISBN975-420-347-4

Week	Weekly Detailed Course Contents	
1	Theoretical	History of molecular biology, relation with other science, biomolecules
2	Theoretical	Cell molecular organizations, cellular localization and roles of NA,
3	Theoretical	Nucleic acid, structural features of NA, Chemical properties of NA, physical properties of NA
4	Theoretical	DNA replication and repair mechanism, Recombinant DNA tecnology, protein, restiriksiyon enzymes
5	Theoretical	General methods on molecular biology lab.
6	Intermediate Exam	Exam
7	Theoretical	DNA isolation and analysis, DNA transformation, Polimerase chain reaction RNA and
8	Theoretical	RNA isolation and analysis
9	Theoretical	dsRNA izolation and analysis
10	Theoretical	Polimerase chain reaction
11	Theoretical	RNA/DNA hybridization
12	Theoretical	Bioinformatics
13	Theoretical	Gen cloning
14	Theoretical	Protein isolation and analysis
15	Final Exam	Final

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	2	56
Lecture - Practice	14	3	2	70
Midterm Examination	1	34	1	35



Final Examination	1	38	1	39
Total Workload (Hours)				200
[Total Workload (Hours) / 25*] = ECTS				8
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To be able to understand molecular structure of genetic material
2	Information about molecules in molecular biology.
3	Teaching several techniques that is used in Molecular Biology
4	
5	

Programme Outcomes (Plant Protection Master)

1	To develop knowledge and abilities that gained during undergraduate education
2	To gain ability to search and pursue current literature
3	To gain ability to plan and write projects that help solving problems in field of study.
4	To gain ability to conduct research, analyze data, evaluate research results scientifically and prepare reports and thesis writing.
5	Students will be able to learn and apply the laboratory test and analysis methods
6	To recognize occupational and ethical responsibility

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	4	4	4	4	4
P2	4	4	4	4	4
P3	3	3	3	3	3
P4	5	5	5	5	5
P5	5	5	5	5	5
P6	4	4	4	4	4

