AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Molecular Genetics						
Course Code		BİO501		Couse Level		Second Cycle (Master's Degree)		
ECTS Credit	6	Workload	156 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The goal of the course is to teach structure, organization and functions of general genetic material in prokaryotic and eukaryotic cells.						
Course Content		Chemical structure replication and transfer of nucleic acid, RNA synthesis from DNA, protein synthesis, gene and genom organization, mutations and its repair mechanisms.General techniques in molecular genetic laboratories						
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	Klug W.S. and Cumings M.R.,(Ed. Öner C.) Concept of Genetics, Palme Yayıncılık,

Week	Weekly Detailed Course Contents	
1	Theoretical	History of DNA
2	Theoretical	Structure of DNA
3	Theoretical	Replication of DNA
4	Theoretical	RNA structure and types
5	Theoretical	Transcription
6	Theoretical	RNA processing
7	Theoretical	Protein synthesis
8	Theoretical	Control of gene expression
9	Theoretical	The Mechanism of gene transfer: Transformation, Conjugation, Transduction.
10	Theoretical	Recombination
11	Theoretical	Transposible elements
12	Intermediate Exam	Midterm Exam
13	Theoretical	Mutations and repair mechanisms
14	Theoretical	Gene manuplations
15	Theoretical	Common techniques in molecular genetics I
16	Theoretical	Common techniques in molecular genetics II
17	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	15	3	3	90
Assignment	2	10	2	24
Midterm Examination	1	20	1	21
Final Examination	1	20	1	21
			Total Workload (Hours)	156
			[Total Workload (Hours) / 25*] = **ECTS**	6

25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To be able to understand of nucleic acids structure
2	To be able to acquire the nucleic acids' functions
3	To be able to understand of nucleic acid organization in the cell
4	To be able to understand of genetic material transfers between cells
5	To be able to understand of mutagens and effect of mutations

Programme Outcomes *(Field Crops Master)*

1	To be able to improve and deepen the level of expertise in field crops on the basis of the departments licenses qualifications.
2	To be able to recognize the subjects related to field crops, to be able to solve these and make interpretation.
3	To be able to have the skills of acting independently, to have power to decide and to create.
4	To be able to work in teams between departments
5	To be able to give briefing about latest information of Field Crops in written, oral and visual ways.
6	To be able to take responsibility for developing the new approaches and to formulate a solution facing unforeseen complex situations of applications,
7	To be able to defend the original opinions in both Turkish and in foreign languages by using these languages and communicating effectively.
8	To be able to contribute to science by producing knowledge for the aim of improving quality, efficiency and sustainability
9	To be able to apply breeding methods in order to improve new varieties for Field Crops.
10	To be able to maintain and select the appropriate statistical methods within the framework of the study, evaluation of scientific ethics; to convert the results into a report/dissertation and to offer them by producing scientific publications.

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	3	4	3	4
P2	4	3	4	3	4
P3	4	3	4	3	4
P4	4	3	4	3	4
P5	4	3	4	3	4
P6	4	3	4	3	4
P7	4	3	4	3	4
P8	4	3	4	3	4
P9	4	3	4	3	4
P10	4	3	4	3	4