AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Recombinant DNA Technology in Agriculture								
Course Code	ZBY505		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	7	Workload	175 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	The goals of this course focus on basic principles and applications of recombinant DNA technology.								
Course Content	This course contains all steps of DNA cloning and its applications and also current and the most popular topics in recombinant DNA technology.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion, Case Study								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	30
Final Examination	1	60
Assignment	1	10

Recommended or Required Reading	
1	Scientific Papers;
2	Current protocols in molecular biology, Edited by Ausubel FM., Brent R., et all., 2003
3	Genes VIII, Lewin B.,Pearson Education International, 2004
4	Molecular biology of the cell, Alberts B., Johnson A., Lewis J., et al., Garland Science, fifth edition, 2008
5	Molecular cloning: a laboratory manual,T. Maniatis, Cold Spring Laboratory Press, 1989

Week	Weekly Detailed Course Contents	
1	Theoretical	Organization of DNA
2	Theoretical	Genetics of bacteria
3	Theoretical	Differences between procaryotic and eukaryotic genome
4	Theoretical	Regulation of gene expression
5	Theoretical	DNA isolation, restriction enzymes and their application fields
6	Theoretical	Cloning vectors and features of cloning enzymes
7	Theoretical	Application: preparation of agar plates and some solutions
8	Intermediate Exam	Midterm exam
9	Theoretical	Gene cloning and gene transfer methods
10	Theoretical	Application: cloning
11	Theoretical	Selection of target clones and hybridization techniques
12	Theoretical	Mutagenesis of cloned genes and analysis of structural and functional changes in the mutant genes
13	Theoretical	DNA libraries; genomic DNA and cDNA libraries and execution of structure and function analyzes of mutant genes
14	Theoretical	Vectors
15	Theoretical	Litherature analysis
16	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	8	3	154
Assignment	2	3	1	8
Midterm Examination	1	5	1	6

Final Examination	1	6	1	7
			Total Workload (Hours)	175
			[Total Workload (Hours) / 25*] = **ECTS**	7
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Describe current issues about related with Recombinant DNA Technology
2	List all application fields of the technology
3	Explain results of the experiments
4	Distinguish between different methods of the technologies
5	Describe recombinant DNA technology

Programme Outcomes *(Agricultural Biotechnology Master)*	
1	Students learn various techniques and evaluates resources about agricultural biotechnology
2	Make the necessary projects in agricultural biotechnology and to conduct a study of the basic level independently
3	Students learns how to conduct a scientific research and prepares themself for the scientists in the direction of their ideals.
4	Students may reveal new ideas in social and scientific issues and can benefit from the ideas and produce something new winning independent and teamwork skills.
5	Students can use its products for the benefit of humanity, they can produce technology and collaborate with industry

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
P2	5	5	5	5	5
P3	5	5	5	4	4
P4	4	4	4	4	4
P5	3	3	2	2	2