AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Biotechnology and Plant Breeding								
Course Code	ZBY511		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	7	Workload	181 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	To improve students' knowledge about plant breeding, to teach breeding methods to them and to give them the ability to do breeding projects using modern techniques.								
Course Content	Advantages of plant breeding, contribution of biotechnology to plant breeding, multiplication in plants, variation, mutation, cell and tissue culture, genetic resources, breeding methods of self and foreign fertilized plants								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration, Discussion, Project Based Study								
Name of Lecturer(s)	Prof. Ahmet OKUMUŞ								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Kurt, O. 2008. Bitki Islahı. OMU, Ziraat Fakültesi Yayınları. Ders Kitabı
2	Acquaah G. , Principles of Plant Genetics and Breeding, Blackwell Publishing.
3	Bitki Biyoteknolojisi 1. M. Babaoğlu, E. Gürel, S. Özcan. Selçuk Üniversitesi Vakfı Yayınları.

Week	Weekly Detailed Course Contents	
1	Theoretical	Advantages of plant breeding and contribution of biotechnology to plant breeding
2	Theoretical	Plant remediation in plant production
3	Theoretical	Genetic basis of reproduction in plants
4	Theoretical	Variations in plant breeding and creating variation with classical and biotechnological methods
5	Theoretical	Cell and tissue culture methods used in plant breeding
6	Theoretical	Determination of population variance
7	Theoretical	Improve a variety and principles of registration
8	Intermediate Exam	Midterm
9	Theoretical	Natural gene sources and possibilities of use in plant breeding
10	Theoretical	Examination of use possibilities in mutation and plant breeding
11	Theoretical	Examination of the place and the importance of the changes in chromosome number in plant breeding
12	Theoretical	Methods applied to breeding self-fertilized plants
13	Theoretical	Methods applied in the cultivation of foreign fertilized plants
14	Theoretical	Classical plant breeding techniques and biotechnological techniques
15	Theoretical	The future of plant breeding
16	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	9	3	168
Midterm Examination	1	5	1	6
Final Examination	1	6	1	7
			Total Workload (Hours)	181
			[Total Workload (Hours) / 25*] = **ECTS**	7
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Describes the techniques used in plant breeding
2	Apply plant breeding methods
3	Have knowledge about plant breeding using biotechnological methods
4	Have knowledge about breeding breeding
5	Prepare plant breeding project

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