



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Cultivar Identification Using Molecular Techniques							
Course Code		ZBY523		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	7	Workload	178 (<i>Hours</i>)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		To teach how cultivar identification is done and its importance in plants							
Course Content		Morphological selection in population, selection of different types, DNA extraction, SNP sequences, SSR sequences, RT PCR analysis, creating databases, creating reference databases, variety diagnosis and interpretation							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion, Case Study, Individual 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	Molecular Markers and Their Role in Cultivar Identification Paperback ISBN-13: 978-6139924103
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Week	Weekly Detailed Course Contents	
1	Theoretical & Practice	Theoretical: What is variety identification and its purpose Application: Variety Observation
2	Theoretical & Practice	Theoretical: Characters and their importance in variety identification Application: Character difference
3	Theoretical & Practice	Theoretical: Molecular markers in variety identification Application: Morphological structure-variety relationship
4	Theoretical & Practice	Theoretical: SSR Markers and Selection Application: Morphological sample collection
5	Theoretical & Practice	Theoretical: SNP Markers and Selection Application: Detection of phenotype differences between
6	Theoretical & Practice	Theoretical: RADP Markers and Selection Application: Creating Morphological Reference Table
7	Theoretical & Practice	Theoretical: AFLP Markers and Selection Application: Creating a Genetic Reference Table
8	Intermediate Exam	Midterm exam
9	Theoretical & Practice	Theoretical: Using RT PCR Application: Estimated variety table
10	Theoretical & Practice	Theoretical: Genetic Data collection Application: Placing the data in the Reference table
11	Theoretical & Practice	Theoretical: Defining genetic similarity Application: Determination of genetic similarity
12	Theoretical & Practice	Theoretical: Comparison of variety candidate with reference Application: Interpreting genetic similarity
13	Theoretical & Practice	Theoretical: Comparison of Morphological Data and Genetic Data Application: Interpretation of Phenotypic data and Genetic data
14	Theoretical & Practice	Theoretical: UPOV and ISTA references Application: UPOV and ISTA applications
15	Theoretical & Practice	Variety registration procedures
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	6	2	112
Lecture - Practice	14	2	2	56
Midterm Examination	1	4	1	5
Final Examination	1	4	1	5
Total Workload (Hours)				178
[Total Workload (Hours) / 25*] = ECTS				7

*25 hour workload is accepted as 1 ECTS



Learning Outcomes

1	Suspicious phenotype selection
2	Creating a reference
3	DNA tests
4	Creating a diagnostic key
5	Evaluation of the results

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

