



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Plant Cell and Tissue Culture							
Course Code		BİO519		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	196 (<i>Hours</i>)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		Teaching of alternative plant propagation techniques by using plant cell and tissue culture methods.							
Course Content		Cell and tissue culture, micropropagation, organogenesis, somatic embryogenesis, callus culture, somaclonal variation, haploid plant production, the production of disease-free plant							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Plant Biotechnology Vol 1. Tissue Culture and its Applications Babaoğlu, M., Gürel, E., Özcan S.,S.Ü. Vakfı Yayınları, ISBN: 975-6652-04-7, (2001).
2	((Plant Biotechnology) vol.2. Genetic Engineering and its Applications) SBN: 975-6652-05-5, (2001).

Week	Weekly Detailed Course Contents	
1	Theoretical	Totipotency and differentiation
	Practice	Stock solution and media preparation
2	Theoretical	cell and tissue culture
	Practice	Stock solution and media preparation
3	Theoretical	Basic techniques
	Practice	Stock solution and media preparation
4	Theoretical	organogenesis
	Practice	Sterilization techniques
5	Theoretical	somatic embryogenesis
	Practice	Removal of contamination
6	Theoretical	somaclonal variations
	Practice	Organogenesis experiments
7	Theoretical	haploid plant production
	Practice	organogenesis experiments
8	Theoretical	Disease-free plant production
	Practice	micropropagation experiments
9	Theoretical	Protoplast culture ve somatic hybridization
	Practice	micropropagation experiments
10	Theoretical	Protoplast culture ve somatic hybridization
	Practice	Somatic embryogenesis experiments
11	Theoretical	micropropagation
	Practice	Somatic embryogenesis experiments
12	Practice	midterm
	Intermediate Exam	mid term
13	Theoretical	secondary metabolite production
	Practice	callus culture
14	Theoretical	secondary metabolite production
	Practice	callus culture



15	Theoretical	embryo culture
	Practice	embryo culture

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	2	56
Lecture - Practice	14	2	2	56
Assignment	14	2	0	28
Reading	14	0	2	28
Midterm Examination	1	12	2	14
Final Examination	1	12	2	14
Total Workload (Hours)				196
[Total Workload (Hours) / 25*] = ECTS				8
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To be able to gain knowledge on basic concepts of plant cell and tissue culture
2	To be able to understand the basic lab techniques on tissue culture
3	To be able to evaluate data from studies on different applications of plant tissue culture
4	To be able to gain ability to discuss and prepare of presentation via homeworks and oral presentations given during the course
5	To be able to plan new researches to evaluate uses of global or local plant resources by alternative methods

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	3	3	4	3	3
P2	2	3	4	4	3
P3	3	2	4	4	3
P4	2	3	3	3	3
P5	4	4	3	4	3
P6	3	3	4	3	3

