AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Plant Tissue Culture							
Course Code		TBY309		Couse Level		First Cycle (Bachelor's Degree)			
ECTS Credit	4	Workload	97 *(Hours)*	Theory	2	Practice	0	Laboratory	2
Objectives of the Course		To give information about tissue culture in plants							
Course Content		Introduction, histoty, laboratory opoortunities, preparation of culture medias, selection of media, callus cultures, suspension cultures, haploid cell cultures, anther culture, plant protoplasts, single cell cloning, somatic embriyogenesis, organogenesis, tissue culture in vascular differentiations, production of seconder products, karyo protection of cultures, tissue culture in phytopathology							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration, Discussion, Case Study					
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading	
1	Bitki Biyoteknolojisi, Rüştü Hatipoğlu, Adana, 2012.
2	Dixoon, R.A.1985. Plant Cell culture: a practical approach. IRL Press Limited, England, ISBN 0-947946-22-5
3	Bitki Biyoteknolojisi 1. M. Babaoğlu, E. Gürel, S. Özcan. Selçuk Üniversitesi Vakfı Yayınları.

Week	Weekly Detailed Course Contents	
1	Practice	Introduction
	Preparation Work	
2	Theoretical	History
	Preparation Work	
3	Theoretical	Laboratory organizations and sterilizations
	Preparation Work	
4	Theoretical	Preparation of culture media
	Preparation Work	
	Final Exam	Preperation of stock solutions
5	Theoretical	Selection of media
	Practice	Preperation of media
	Preparation Work	
6	Theoretical	Callus cultures, suspension cultures
	Practice	Seed sterilization and sowing
	Preparation Work	
7	Theoretical	Haploid cell cultures
	Preparation Work	
8	Theoretical	Anther culture
	Practice	Explant culture
	Preparation Work	
9	Theoretical	Somatic Embryogenesis
	Preparation Work	
10	Theoretical	Plant protoplasts
	Preparation Work	
11	Theoretical	Single cell cloning
	Preparation Work	
12	Theoretical	Organogenesis

12	Preparation Work	
13	Theoretical	Tissue culture in vascular differentiations
	Preparation Work	
14	Theoretical	Production of seconder product, karyo protection of cultures
	Preparation Work	
15	Theoretical	Tissue culture in phytopathology
	Preparation Work	
16	Preparation Work	
	Final Exam	Final exam
17	Preparation Work	
18	Preparation Work	
19	Preparation Work	
20	Preparation Work	
21	Preparation Work	
22	Preparation Work	
23	Preparation Work	
24	Preparation Work	
25	Preparation Work	
26	Preparation Work	
27	Preparation Work	
28	Preparation Work	
29	Preparation Work	
30	Preparation Work	
31	Preparation Work	
32	Preparation Work	

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	13	2	2	52
Lecture - Practice	13	2	1	39
Midterm Examination	1	0	1	1
Final Examination	1	4	1	5
			Total Workload (Hours)	97
			[Total Workload (Hours) / 25*] = **ECTS**	4

**25 hour workload is accepted as 1 ECTS*

Learning Outcomes

1	Have learn media using plant tissue culture
2	Have learn plant tissue culture methods
3	To have information about plant tissue culture laboratory organization
4	Apply plant tissue culture methods
5	Have knowledge about the contribution of plant tissue cultures to plant breeding

Programme Outcomes *(Agricultural Biotechnology)*

1	To be able to develop skills in identifying, modeling and solving problems in agricultural biotechnology
2	To be able to synthesize life and engineering sciences for the effective resource planning of agricultural biotechnology applications
3	To be able to interpret about living organisms structure, metabolic and physiological processes in order to propose biotechnological solutions to the agricultural problems
4	To be able to analyze genomic, metabolomic and proteomic information via bioinformatic tools.
5	To have the ability to analyze collected data and interpret the results.
6	To have the ability of individual working ability and to make independent decisions, to work in inter-disciplinary and interdisciplinary teamwork, to communicate by expressing their ideas orally and in writing, clearly and concisely
7	To have the awareness of professional liabilities and ethics

8	To be able to follow current national and international problems

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	5	5	5	5
P2	4	5	5	5	5
P3	3	5	5	5	5
P4	2	5	5	5	5
P5	4	5	5	5	5
P6	3	5	5	5	5
P7	4	5	5	5	5
P8	3	5	5	5	5