



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Animal Tissue Culture							
Course Code		TBY311		Couse Level		First Cycle (Bachelor's Degree)			
ECTS Credit	4	Workload	102 ( <i>Hours</i> )	Theory	2	Practice	0	Laboratory	2
Objectives of the Course		In this course student will learn: to create an approach on the advantages-disadvantages and applications of the cell cultures.							
Course Content		In this course student will learn: to create an approach on the advantages-disadvantages and applications of the cell cultures.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Individual 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	Animal Cell Culture: Essential Methods. J. M. Davis (Editor), 2011, John Wiley & Sons
2	Culture of Animal Cells: A manual of Basic Techniques, by Freshney, I. A., 2005, Wiley-Liss, In., New York.
3	Embriyonic Stem Cells: A practical Approach (Practical Approach Series) (Paperback) by Elena Notarianni (Editor), Martin J. Evans (Editor), 2006, Oxford University Press.
4	Handbook of Industrial Cell Culture: Mammalian, Microbial and Plant Cells (Hardcover) by Victor A. Vinci (Editor), Sarad R. Parekh (Editor), 2003, Humana Press Inc.
5	Mesenchymal Stem Cells: Methods and Protocols (Methods in Molecular Biology) (Hardcover) by Darwin J. Prockop (Editor), Donald G. Phinney (Editor), Bruce A. Bunnell (Editor), 2008, Humana Press.
6	Animal Cell Culture: A Practical Approach, by Masters, J. R. W., 2000, Oxford Press.

Week	Weekly Detailed Course Contents	
1	Theoretical	Historical background, introduction to animal cell and tissue culture, basic terminology
	Preparation Work	Reading: source books
2	Theoretical	Equipments of a tissue culture laboratory and laboratory design and layout
	Preparation Work	Reading: source books
3	Theoretical	Defined media and supplements and principles of preparation of cell culture media
	Preparation Work	Reading: source books
4	Theoretical	Sterilization of cell culture media
	Preparation Work	Reading: source books
5	Theoretical	Preparation of cell cultures
	Preparation Work	Reading: source books
6	Theoretical	Cryopreservation and transporting of cell cultures
	Preparation Work	Reading: source books
7	Theoretical	Cell cloning and characterization
	Preparation Work	Reading: source books
8	Intermediate Exam	Midterm
9	Theoretical	Cytotoxicity and estimation of cell viability in cell culture
	Preparation Work	Reading: source books
10	Theoretical	Application of transfection in cell cultures
	Preparation Work	Reading: source books
11	Theoretical	Stem cell technology
	Preparation Work	Reading: source books
12	Theoretical	Production of monoclonal antibody



12	Preparation Work	Reading: source books
13	Theoretical	Cell culture scale-up
	Preparation Work	Reading: source books
14	Theoretical	Commercial application of tissue culture
	Preparation Work	Reading: source books
15	Theoretical	General term assessment
16	Final Exam	Final exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Lecture - Practice	14	1	2	42
Reading	14	0	1	14
Midterm Examination	1	1	1	2
Final Examination	1	1	1	2
Total Workload (Hours)				102
[Total Workload (Hours) / 25*] = ECTS				4

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	To evaluate the fundamentals conception information of cell and tissue culture techniques
2	To comprehend the importance and application range of cell and tissue culture techniques
3	To take interest and discuss in new approaches of commercial application in cell cultures
4	To learn how to use cell cultures in terms of biosecurity conditions
5	To know cell culture types and applications

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

