



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Introduction to Agricultural Biotechnology							
Course Code		TBY101		Coure Level		First Cycle (Bachelor's Degree)			
ECTS Credit	5	Workload	82 (<i>Hours</i>)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		The main objectives of this course; To provide information about "agricultural biotechnology"to the first year students . To provide information about the agricultural applications of biotechnological methods. To provide information about the Genetically modified organism.							
Course Content		Definition and history of Biotechnology, Worldwide importance of Biotechnology, Current Progresses, Application Areas and Technics of the Biotechnology, Molecular technics used in Biotechnology, Enzymes, Vectors, Genetic transformation, Validation of the genetic transformation, Molecular markers, Genetic mapping, Genetically Modified Organisms (GMO),Application fields of Genetically Modified Organisms in Agriculture, Benefits and Risks of GMOs for the environment and production, Legal Aspects of GMOs in practice							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Tekeoğlu M (2013) Introduction to Biotechnology. Palme Press
2	Akman B, Tuncer T (2012) Code of the life: Human Genome Project. ODTU Press
3	Bayraç et al (2011) Genetically Modified Organisms. ODTÜ Press

Week	Weekly Detailed Course Contents	
1	Theoretical	Definition and history of Biotechnology
	Preparation Work	Course Book / Additional advised sources
2	Theoretical	Worldwide importance of Biotechnology
	Preparation Work	Course Book / Additional advised sources
3	Theoretical	Current Progresses, Application Areas and Technics of the Biotechnology
	Preparation Work	Course Book / Additional advised sources
4	Theoretical	Molecular technics used in Biotechnology
	Preparation Work	Course Book / Additional advised sources
5	Theoretical	Enzymes
	Preparation Work	Course Book / Additional advised sources
6	Theoretical	Vectors
	Preparation Work	Course Book / Additional advised sources
7	Intermediate Exam	Midterm exam
8	Theoretical	Validation of the genetic transformation
	Preparation Work	Course Book / Additional advised sources
9	Preparation Work	Course Book / Additional advised sources
	Intermediate Exam	Mid-term exam
10	Theoretical	Molecular markers
	Preparation Work	Course Book / Additional advised sources
11	Theoretical	Genetic mapping
	Preparation Work	Course Book / Additional advised sources
12	Theoretical	Genetically Modified Organisms (GMO)
	Preparation Work	Course Book / Additional advised sources
13	Theoretical	Application fields of Genetically Modified Organisms in Agriculture



13	Preparation Work	Course Book / Additional advised sources
14	Theoretical	Benefits and Risks of GMOs for the environment and production
	Preparation Work	Course Book / Additional advised sources
15	Theoretical	Legal Aspects of GMOs in practice
	Preparation Work	Course Book / Additional advised sources
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Lecture - Practice	14	0	2	28
Assignment	1	1	1	2
Midterm Examination	1	4	1	5
Final Examination	1	4	1	5
Total Workload (Hours)				82
[Total Workload (Hours) / 25*] = ECTS				3.5

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Understands the concept of Biotechnology.
2	To have knowledge about molecular technics used in biotechnology
3	To have knowledge about genetic transformation
4	To understand the Genetically Modified Organism (GDO) concept
5	To have knowledge about legal aspects of GMOs in practice

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

