



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Genetically Modified Organisms							
Course Code		TBY325		Course Level		First Cycle (Bachelor's Degree)			
ECTS Credit	3	Workload	72 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		To have knowledge about GMO research, environment, industrial and agricultural production, potential risks of GMOs, national and international regulations in GMO production and trade, GMO and biosafety, moral and social issues, GMOs, biosafety and food safety issues .							
Course Content		To increase the amount of products available Reducing post-harvest losses, To make the products more tolerant to factors such as cold, hot, drought and salinity, To prevent products from reducing soil fertility, To increase the nutritive value of foods, Reducing the use of pesticides with harmful insect-resistant products, Developing alternative sources for industry							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study, Individual Study					
Name of Lecturer(s)		Assoc. Prof. Emre SEVİNDİK							

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

### Recommended or Required Reading

1	Plant Biotechnology and Genetics: Principles, Techniques, and Applications
2	Molecular Biology, Nobel Academic and Publishing Ankara, 2012
3	Fundamentals of Molecular Genetics, Assoc. Prof. Dr. H. Ümit LÜLEYAP, Nobel Kitapevi, 2008

Week	Weekly Detailed Course Contents	
1	Theoretical	Definition and Uses of GMO
2	Theoretical	Agriculture of GMOs
3	Theoretical	Benefits and Losses of GMO
4	Theoretical	The importance of GMOs in the world and in Turkey
5	Theoretical	Possible Risks of GMOs for Agricultural Areas and the Environment
6	Theoretical	Gene Transfer
7	Theoretical	Gene Transfer technique
8	Intermediate Exam	Exam
9	Theoretical	Gene Transfer in Plants
10	Theoretical	Transgenic Plants
11	Theoretical	Genes and Properties of Transgenic Plants
12	Theoretical	Gene transfer in animals
13	Theoretical	Transgenic Animals
14	Theoretical	Cloning Vectors
15	Final Exam	Exam

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	2	56
Midterm Examination	1	7	1	8



Final Examination	1	7	1	8
Total Workload (Hours)				72
[Total Workload (Hours) / 25*] = ECTS				3
*25 hour workload is accepted as 1 ECTS				

### Learning Outcomes

1	Learns the definition of GMO and how it is used.
2	Learns the stages of GMO plant production.
3	The status of GMO plant production in the world and in our country
4	Know the vectors used for GMO
5	To know the GMO products in agriculture

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

