



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Biotechnology and Gm Products							
Course Code		ÇS307		Course Level		Short Cycle (Associate's Degree)			
ECTS Credit	2	Workload	50 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		Below topics have been targeted: 1. Nowadays, the use and importance of biotechnology; 2. Production of transgenic products/living things, and Features of the GM technology; 3. Importance of GM products in terms of environment and human.							
Course Content		Development of biotechnology/nanotechnology, and use of them in variety fields. The living things/products are produced by GM technology, producing countries, and possible effects of them on human health/environment. The studies are performed in this field in our country and world.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study, Individual Study					
Name of Lecturer(s)		Lec. Sevil ÖZCAN							

### Assessment Methods and Criteria

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

### Recommended or Required Reading

1	Prof. Dr. Selim Çetiner, What is Genetically Modified Organism (GMO)? Questions and Answers-1, Sabancı University Faculty of Engineering and Natural Sciences Tuzla, İstanbul)
2	Prof. Dr. Kemal GÜVEN, Genetically Modified Organisms, Dicle university Molecular Biology Department Manager
3	Heredity and Evolution (2007) Ali Demirsoy, Meteksan

Week	Weekly Detailed Course Contents	
1	Theoretical	Basic concepts such as chromosome, gene, genome, etc.
2	Theoretical	What is the Mutation? Chromosomal mutations and reasons.
3	Theoretical	What are the Biotechnology and Nanotechnology? Their importance in our daily life.
4	Theoretical	Development of the Biotechnology, and its importance for genome Project.
5	Theoretical	GMO technology, and its applications.
6	Theoretical	Why are GMO products required?
7	Theoretical	Use of the GMO technology in agriculture.
8	Theoretical	Midterm
9	Theoretical	Use of the GMO technology in medicine.
10	Theoretical	Use of the GMO technology in food.
11	Theoretical	The benefits/The harms of the GMO products.
12	Theoretical	The products that are produced using of GMO technology, and the countries which are using this technology mostly.
13	Theoretical	Countries which have banned the producing of the GMO products, and reasons of them.
14	Theoretical	The status of GMO products in our country.
15	Theoretical	The biosafety protocol.

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Midterm Examination	1	2	1	3



Final Examination	1	4	1	5
Total Workload (Hours)				50
[Total Workload (Hours) / 25*] = ECTS				2
*25 hour workload is accepted as 1 ECTS				

### Learning Outcomes

1	Define the Biotechnology and GMO technology.
2	Know the products that produced by GM technology.
3	Know the potential impact of GM corps for human and environment.
4	Explain the effects of GMO products on human health.
5	Knows the use of GMO technology in the health field.

### Programme Outcomes (Dialysis)

1	To be able to comprehend the duties and responsibility of dialysis technicians. To be able to work in a team with members of other health professions.
2	To be able to acquire a general knowledge of human anatomy, physiology and biochemistry
3	To be able to gain knowledge of blood-borne infectious diseases, especially infectious diseases such as hepatitis and universal prevention methods
4	To be able to have knowledge of blood-borne infectious diseases, especially infectious diseases such as hepatitis and universal prevention methods
5	To be able to recognize hemodialysis machine, and have knowledge and skills will be used it during operation of dialysis
6	To be able to have the knowledge of application on peritoneal dialysis and skills be able to train patient on this.
7	To be able to acquire dialysate characteristics, have necessary skills on preparation and application
8	To be able to gain the knowledge and skills on the basic principles of water treatment, application methods, and control of purified water as a level of practitioner
9	To be able to comprehend the principles of patient care, complications during dialysis operation what patients may be encounter and perform necessary knowledge and skills to take necessary measures to protect patient from these complications.
10	To be able to gain knowledge and equipment related to educating on problems that the long-term dialysis patients may have.
11	To be able to understand periodic examinations during the follow up dialysis patients and recognize pathologies in the early period, and have the knowledge and skills to take necessary precautions in time
12	To be able to have the knowledge of the dialysis patients, physiological, social and psychological problems, and perform necessary support skills on these issues for the patient
13	In general to be able to comprehend the knowledge of, drugs, dosage, side effects, and toxic effects, routes of administration of drugs and drug use in patients with chronic renal failure
14	To be able to acquire a high level knowledge of fluid and electrolyte problems with general issues nephrology, acid-base balance disorder, nephrology and urology kidney disease, chronic and acute renal failure.
15	To be able to comprehend the methods of diagnosis and treatment of diseases of the system, and have knowledge of fighting and protecting from especially problems that can be seen in dialysis patients as level of practitioner and getting patient compliance.
16	To be able to have knowledge of statistics and research methods as a level of following the developments, monitoring and interpreting scientific publications.
17	To be able to gain the knowledge of foreign language as a level of communicating and following developments.
18	To be able to be willing to self-improvement as an individual committed to the principles and reforms of Atatürk and keeping on the some of the rules of social life, customs and traditions, depending on the interests of the country on their own interests as a member of society,

### 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	2	2	2	2	2
P2	4	4	4	4	4
P3	3	3	4	4	4
P4	3	3	3	3	3
P5	3	3	3	3	3
P6	3	3	3	3	3
P7	2	2	2	2	2
P8	3	3	3	3	3
P9	1	1	1	1	1
P10	1	1	1	1	1



P11	1	1	1	1	1
P12	1	1	1	1	1
P13	1	1	1	1	1
P14	4	4	4	1	1
P15	1	1	1	1	1
P16	5	5	5	5	5
P17	4	4	3	4	4
P18	4	4	4	4	4

