



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 (Physiotherapy)

1	To be able to recall the information of research methods and statistics so as to follow the developments, monitor and interpret scientific literature
2	To have the appropriate knowledge of basic sciences at the level of interest, to use specific medical terms and terminology of physical therapy
3	To be able to recall knowledge of the general structure and properties of musculoskeletal system and the joints and to evaluate the story of musculoskeletal diseases.
4	To be able to comprehend the methods of measurement of the range of motion of joints and to measure it.
5	To be able to implement a general evaluation of posture analysis and gait analysis.
6	To be able to recall the knowledge about general characteristics of musculoskeletal diseases, osteoporosis, osteoarthritis, rheumatoid arthritis, ankylosing spondylitis, especially rheumatic diseases, mechanical low back and neck pain, disc herniation, soft tissue disorders and to apply appropriate physiotherapy.
7	To be able to recall the knowledge and gain skills about the devices and the agents of heater used in physical therapy, indications and contraindications of using, and the necessary information about how to apply on patients.
8	To be able to recall the knowledge of the electromagnetic field.
9	To be able to recall what Elektroakapunktur, Laser, Biofeedback, cervical and lumbar traction systems, pneumatic compression therapy are, and how to apply them, which one is applicable to patients.
10	To be able to recall what manipulation-mobilization is and which patients are suitable for this application.
11	To be able to recall what massage and hydrotherapy treatments are and which patients are suitable for these applications.
12	To be able to gain the professional and ethical awareness, apply gained knowledge and skills in real life situations and transfer gained knowledge to individuals around her/his environment, and improve behavior of life-long learning.
13	To gain knowledge about methods of diagnosis, protection and treatment of diseases
14	To be able to recall the knowledge and gain skills about physical therapy and rehabilitation methods to be applied to neurological disorders.
15	To be able to recall the knowledge and gain skills about physical therapy and rehabilitation methods to be applied to cardiopulmonary disorders.
16	To be able to recall the knowledge and gain skills about physical therapy and rehabilitation methods to be applied to pediatric patients.
17	To be able to gain knowledge about the effects of fitness and exercise on metabolism and responses of body systems to them.
18	To have knowledge about rehabilitation services
19	To become individuals who can do interdisciplinary team work, with a sense of social responsibility and entrepreneur.
20	To be able to recall the knowledge about Atatürk's Principles and the History of Turkish Revolution.
21	To be able to gain the knowledge and ability to become contemporary individuals who can use Turkish language grammar well and know a foreign language knowledge necessary to follow the developments in the profession.

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	5	5	5	5	5
P2	5	5	5	5	5
P3	3	3	3	3	3
P4	3	3	3	3	3
P5	2	2	2	2	2
P6	2	2	2	2	2
P7	2	2	2	2	2
P8	2	2	1	1	1
P9	2	2	1	1	1



P10	2	2	1	1	1
P11	2	2	1	1	1
P12	2	2	1	1	1
P13	2	2	1	1	1
P14	2	2	1	1	1
P15	2	2	1	1	1
P16	2	2	1	1	1
P17	2	2	2	2	1
P18	2	2	2	2	2
P19	5	5	5	5	5
P20	5	5	5	4	5
P21	5	5	5	5	5

