



AYDIN ADNAN MENDERES UNIVERSITY
AYDIN VOCATIONAL SCHOOL OF HEALTH SERVICES
MEDICAL SERVICES AND TECHNIQUES
MEDICAL LABORATORY TECHNIQUES
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	60

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

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 (Medical Laboratory Techniques)

1	To be able to have sufficient back ground in medical laboratory techniques and medical laboratory branches (biochemistry, microbiology, parasitology, sitogenetik etc.); the ability to use theoretical and practical knowledge in these fields.
2	To be able to have the basic theoretical and practical knowledge and other resources have been supported applications and tools based on secondary-level qualifications gained in the field of Medical Laboratory Techniques Program to-date text books containing formations
3	To be able to have basic knowledge about structure and function of systems in human, to analyse these data on tissue, cell and diseases.
4	To be able to analyse the medical samples necessary for physicians by using tools, equipment and techniques at the diagnostic and the therapeutic laboratories of health agencies and evaluate the data.
5	To be able to use the medical laboratory tools and equipments according to rules and techniques, and make controls and maintenance of them
6	To be able to perform basic tests of related different medical laboratories, prepare solutions.
7	To be able to perform proper sample collection and transport procedures for the medical laboratory tests from the patient.
8	To be able to perform preanalytical sample preparation procedure, prepare inspection preparations, perform disinfection and sterilization
9	To be able to interpret and evaluate data, define and analyze problems, develop solutions based on research and proofs by using acquired basic knowledge and skills with in the field.
10	To be able to have knowledge about work organization and carry out related practice in medical laboratories
11	To be able to carry out laboratory safety protocols, take individual safety precaution and create safe laboratory environment.
12	To be able to gain the ability to apply by viewing and evaluating the processes related to his/her fields in public and private sector.
13	To be able to gain the awareness of the necessity of life long learning, ability to follow developments in science and technology and self-renewal.
14	To be able to help laboratory experts and medical scientists for their researches
15	To be able to be aware of individual and public health, environmental protection and job security issues, under standing the basic level of the relationship.
16	To be able to grasp principles of Atatürk and there volutions, to ensure national, ethical, spiritual and cultural values, to adopt to universal and contemporary developments
17	To be able to communicate efficiently for medical service and speak Turkish efficiently.
18	To be able to communicate in English at basic level, utilize foreign language on occupational practice

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	5	5	5	5	5
P4	5	5	5	5	5
P5	3	3	3	3	3
P6	3	3	3	3	3
P7	1	1	1	1	1
P8	2	2	2	2	2
P9	4	4	4	4	4
P10	3	3	3	3	3
P11	3	3	3	3	3
P12	3	3	3	3	3



P13	5	5	5	5	5
P14	4	4	4	4	4
P15	5	5	5	5	5
P16	4	4	4	4	4
P17	4	4	4	4	4
P18	4	4	4	4	4

