Course Title	Code	Semester	Theoretical (hours/week)	Practice (hours/week)	Laboratory (hours/week)	ECTS
OXIDATIVE STRESS DNA DAMAGE AND REPAIR MECHANISMS	**MTP 513**	**1./2. Semeseter**	**3**	**0**	**0**	**5**

Prerequisites	None
Course Language	Turkish
Course Type	Elective
Teaching Methods	Interactively, Slide Presentation, If necessary,accessing data sources via internet
Instructor(s)	Proffesor. Dr. E. İlker SAYGILI
Course Objective	This course covers the principles of molecular medicine and DNA damage. Topics include patterns and analyses of Oxidative Stress, DNA Damage, DNA Damage products, DNA Repair mechanism.
Course Learning Outcomes	1. Will be able to define DNA technology and damage techniques 2. Will be able to define oxidative stress and DNA repair 3. Will be able to describe current techniques in molecular medicine
References	1. Mechanisms of DNA Damage and Repair: Implications for Carcinogenesis and Risk Assessment (Basic Life Sciences) ISBN-13: 978-1461594642 Springer; Softcover reprint of the original 1st ed. 1986 edition (June 30, 1986)

WEEKLY COURSE TOPICS

Weeks	DISCUSSION TOPICS TO BE PROCESSED
1.	Oxidative Stress
2.	DNA damage
3.	DNA damage
4.	DNA Damage Measurement Methods
5.	DNA Damage Measurement Methods
6.	DNA Repair Mechanisms
7.	DNA Repair Mechanisms
8.	**Midterm exam**
9.	Antioxidants in DNA Repair
10.	DNA Repair Measurement Methods
11.	DNA Repair Measurement Methods
12.	Recombinant DNA Technology
13.	Cancer Biochemistry
14.	Crispr-Cas / Comet Assay
15.	**Final Exam**

ECTS / WORK LOAD TABLE

Activities	**Number**	**Duration**	**Total Work Load**
Course	14	3	42
Laboratory			
Practice			
Field Study			
Outclass course work hours (Self working / Teamwork / Preliminary work)	14	4	56
Presentations (Video preparation / Poster preparation / Oral presentation / Focus group discussion / Applying questionnaire/ Observation and report writing)			
Seminars			
Project			
Case study			
Role playing, dramatization			
Preparing and criticizing article			
Semester midterm exams	2	10	20
Semester final exams	1	7	7
Total Work Load (hour) / 25(s)	125/25=5		
ECTS	**5**		

EVALUATION SYSTEM

Midterm Studies	**Number**	**Contribution**
Midterm exam	1	%25
Quiz		
Laboratory		
Practice		
Field Study		
Specific practical training (If exists)		
Homework assignment		
Presentation and seminar	1	%25
Projects		
Other evaluation methods		
Total of Midterm Studies		%50
Final Studies		
Final	1	%50
Homework assignment		
Practice		
Laboratory		
Total of Final Studies		%50
Contribution of midterm studies to course grade		%50
Contribution of final studies to course grade		%50
Total Grade		**100**

RELATIONSHIPS BETWEEN COURSE LEARNING OUTCOMES AND PROGRAM QUALIFICATIONS

Program Qualifications		Learning Outcomes		
		LO1	**LO2**	**LO3**
1.	Has up-to-date knowledge in proficiency level in the field of Molecular Medicine based on qualifications at the undergraduate level, develops and deepens them.	4	3	3
2.	Has knowledge about the information technologies, technical equipment, devices and tools at the level required by the field of Molecular Medicine.	3	3	4
3.	Interprets new informations by integrating with information from different disciplines and Molecular Medicine. Analyzes and synthesizes by using different research methods and brings solution proposals.	5	4	3
4.	Writes the report of own research.	3	2	3
5.	Plans experimental research and practises.	3	4	3
6.	Fictionalizes about the subjects that need proficiency in the field of Molecular Medicine, brings solution proposals, solves problems, evaluates the results obtained and applies them when necessary.	3	3	3
7.	Make scientific clinical and / or descriptive research / presentation / publication associated with primary topics in Molecular Medicine and community health	3	3	2
8.	Evaluates the knowledge in the field of Molecular Medicine critically and directs the learning.	5	4	4
9.	Applicates the principles of professional development and lifelong learning related to the field of Molecular Medicine to the studies that carry out.	4	4	3
10.	Systematically discusses and shares the informations about current developments and own works in the field of Molecular Medicine, in written, oral and visual manner with same or different working areas.	2	3	5
11.	Collects, registers, interprets, announces data related to the field of Molecular Medicine, observes social, scientific and ethical values and teaches these values.	5	4	3
12.	Collects data related to the field of Molecular Medicine, towards restriction, interpretation, announcing social, scientific, and ethic values in oversees and teaches these values.	3	3	3
13.	Evaluates current developments in the field of Molecular Medicine that cover both the basic unit related to the society, child and family, in the direction of national values and country facts.	5	4	5
14.	Knows the importance of ethical principles and ethical committees for the individual and society, and behaves ethically.	4	4	3
15.	Develops strategies, policies and implementation plans in the field of Molecular Medicine and evaluates the results obtained within the framework of quality processes.	4	2	3

Contribution to the level of proficiency: 1: Low **2:** Low/Moderate **3:** Moderate **4:** High **5:** Excellent