Course Title	Code	Semester	Theoretical (hours/week)	Practice (hours/week)	Laboratory (hours/week)	ECTS
WORKING METHODS WITH EXPERIMENTAL ANIMALS	**MTP 517**	**1./2. Semester**	**3**	**0**	**0**	**5**

Prerequisites	None
Course Language	Turkish
Course Type	Elective
Teaching Methods	Lecture, question- answer, demonstration, practice-exercise
Instructor(s)	
Course Objective	The aim of this course is to introduce the basic applications in experimental animals at the ethical level, to develop in-vivo techniques, to create experimental animal models and to demonstrate the related treatment approaches.
Course Learning Outcomes	**1.** To be able to follow the current changes and developments in the field of medicine **2.** To be able to understand that the idea of a project can be transformed into an application that can change the world of medicine. **3.** To have general information about important medical discoveries **4.** To be able to select the type of animal needed in the preparation of a project and to plan the working model
References	**1.** Laboratuvar Hayvanları Biliminin Temel İlkeleri. Prof. L. F. M. Van Zutphen, Prof. Dr. V. Baumans, Çeviren: Yrb. Tayfun İDE, Medipres, 2003. **2.** Laboratuvar Hayvanları Rehberi. Elif İlkay Armutak, Funda Yiğit, Nobel Tıp Kitabevi, 2014 **3.** Deney Hayvanları Laboratuvar Teknikleri. Prof. Dr. Ayşe Başaran, Nisan Kitabevi, 2003. **4.** Biyomedikal Araştırmalarda Deney Hayvanı. Prof. Dr. Berrak Ç. YEĞEN, Yüce Yayımları, 2005

WEEKLY COURSE TOPICS

Weeks	DISCUSSION TOPICS TO BE PROCESSED
1.	Historical Approach to Experimental Animal Studies
2.	Basic Principles and Definitions
3.	Model Selection in Animal Experiments
4.	Experimental Animals Anatomy
5.	Experimental Animal Physiology and Physiological Parameters
6.	Experimental Animal Physiology and Physiological Parameters
7.	Basic Applications in Experimental Animals (Grip and Gender Determination)
8.	Injection and Injection Techniques in Experimental Animals
9.	**Midterm exam**
10.	Taking Blood and Sampling from Experimental Animals
11.	Taking Blood and Sampling from Experimental Animals
12.	Anesthesia in Experimental Animals
13.	Anesthesia in Experimental Animals
14.	Animal Experiments Ethics
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)	16	3	48
Presentations (Video preparation / Poster preparation / Oral presentation / Focus group discussion / Applying questionnaire/ Observation and report writing)			
Seminars	1	8	8
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	LO4
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	4	5	5
2.	Has knowledge about the information technologies, technical equipment, devices and tools at the level required by the field of Molecular Medicine.	4	4	5	5
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	5	5	5
4.	Writes the report of own research.	5	5	5	5
5.	Plans experimental research and practises.	5	5	5	5
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.	4	4	5	5
7.	Make scientific clinical and / or descriptive research / presentation / publication associated with primary topics in Molecular Medicine and community health	4	4	5	5
8.	Evaluates the knowledge in the field of Molecular Medicine critically and directs the learning.	5	4	5	5
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	5	4
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.	5	5	5	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	5	4	5
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.	4	4	5	5
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	5
14.	Knows the importance of ethical principles and ethical committees for the individual and society, and behaves ethically.	5	5	5	5
15.	Develops strategies, policies and implementation plans in the field of Molecular Medicine and evaluates the results obtained within the framework of quality processes.	5	5	5	5

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