GAZIANTEP ISLAMIC SCIENCE AND TECHNOLOGY UNIVERSITY

GRADUATE EDUCATION INSTITUTE

COURSE CONTENT FORM

	COURSE INFORMATION					
Curriculum year	**Course name**	*Code*	*Semester*	*T+P Hour*	*Credit*	*ECTS*
	Laboratory Techniques in Histology		I	1+2	2	4

Language of the Course	Turkish
Level of the Course	Master's Degree
Department/Program	Histology-Embryology
Education Type	Formal
Type of Course	Compulsory courses
Prerequisite Courses	No
Department/Program coordinator	Prof. Dr. Mehmet Yüncü
Course Supervisor(s)	Asst. Prof. Üyesi Mustafa Öztatlıcı
Course Assistants	Asst. Prof. Çiğdem Karaca Asst. Prof. Ayşegül Burçin Yıldırım
Course Objectives	To provide students with knowledge and skills about the general equipment of the histology laboratory, tissue preparation techniques for histological examinations, general and special staining methods, microscope types and their uses.
Course Content	General histology laboratory equipment, microscope types, use of microscope, preparation of tissues for light and electron microscopic examination, tissue sampling, fixation, tissue follow-up, blocking, sectioning, general and special staining methods, histochemical and immunohistochemical staining techniques, immunofluorescent staining technique, tissue sampling and tracking for scanning and transmission electron microscopy
Teaching-Learning Methods and Techniques used in the Course	Lecture (Presentation) method, student lecture presentations, Discussing scientific articles, laboratory pratices
Course Internship Status	No

Course Learning Outcomes
1. Explains and counts general histology laboratory equipments. Defines the types of microscopes, explains the working principles, categorizes them, explains their properties. Uses the light microscope accurately and completely.
2. Accurately evaluates microscopy preparations. Accurately takes tissue samples for microscopic examination. Explains histological tissue preparation techniques for light microscopy.
3. Recognizes sectioning devices and uses them without fault. Defines different dye types, expresses their properties, determines their differences and applies them in the laboratory. Defines and summarizes immunohistochemistry and immunofluorescence methods.
4. Explains the features and working principles of electron microscope, evaluates its usage areas. Takes tissues for electron microscopy and tracks them. Takes sections for electron microscopy and stains sections. Evaluates sections in electron microscope.
5. Establishes and organizes a histology laboratory. Makes laboratory practices for undergraduate students

COURSE FLOW	
Week	**Topics**
1	Introduction to histological techniques
2	Sample collection and fixation, fixatives
3	Tissue tracking, transparency
4	Routine paraffin follow-up and blocking
5	Sectioning
6	Histological Staining and dye types
7	Midterm exam
8	Special staining methods
9	Immunohistochemical staining
10	Immunofluorescence staining
11	Tissue retrieval and tissue tracking for Transmission Electron Microscopy (TEM)
12	T.E.M. sectioning and staining
13	Tissue retrieval and tissue tracking for Scanning Electron Microscopy (SEM)
14	S.E.M. sectioning and staining
15	Semester final exam

RESOURCES
- Ross M.H, Pawlina W: Histology, A Text and Atlas. Lippincott Williams and Wilkins. 2011 - Junqueira L.C: Basic Histology. McGraw-Hill Medical. 2013 - Mills S.E: Histology for Pathologists. Lippincott Williams and Wilkins. 2012 - Fawcett D.W: A Textbook of Histology. CRC Press. 1998 - Yüncü M: Histobul. Çukurova Nobel Tıp Kitapevi, 2014

ASSESSMENT SYSTEM		
SEMESTER STUDIES	**number**	**PERCENTAGE OF CONTRIBUTION**
Midterm	1	%40
Quiz		
Homework		
Attending the course		
Seminar		
Practice	1	%10
Course Specific Internship (if applicable)		
Project		
Workshop		
Presentation		
Semester final exam	1	%50
Total	3	%100
Contribution of Midterm Studies to Success Grade		
The Contribution of the Final Exam to the Success Grade		
Total		

ECTS / WORKLOAD TABLE			
Activity	**number**	**Time (Hour)**	**Total Workload (Hour)**
Course Duration (Including the exam week: 15x total course hours)	*15*	*1*	*15*
Out of Class Study Time (Pre-study, reinforcement)	*15*	*2*	*30*

Homework			
Seminar	*1*	*10*	*10*
Presentation	*4*	*5*	*20*
Practices	*15*	*2*	*30*
Lab	*15*	*1*	*15*
Course Specific Internship (if applicable)			
Project			
Workshop			
Other (……..)			
Midterm exam	*1*	*1*	*1*
Quiz			
Semester final exam	*1*	*1*	*1*
Total Workload			*122*
Total Workload / 30(s)			
ECTS Credits of the Course			*4*

ASSOCIATION OF COURSE LEARNING OUTCOMES WITH PROGRAM OUTCOMES

No.	Program Learning Outcomes
1	Have general knowledge about the human body
2	Have detailed information about the histological structures of human tissues and organs.
3	Learns histological and histochemical techniques
4	Have detailed information about general human embryology.
5	Learn to use research lab tools and materials
6	Improves scientific article reading and evaluation proficiency
7	Can make histology laboratory applications to undergraduate students
8	Gains a general vision about basic medical sciences
9	Provides the necessary knowledge to participate in the doctoral program
10	Provides the competence to be a researcher in multidisciplinary research

Learning Outcomes	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
LO1.	4	3	5	2	5	3	5	5	5	5
LO2.	4	4	5	2	5	3	5	5	5	5
LO3.	4	5	5	2	5	4	5	5	5	5
LO4.	3	4	5	2	5	3	3	5	5	5
LO5.	2	2	5	3	5	3	5	5	5	5
LO: Learning Outcomes PO: Program Outcomes										
Contribution Level	1. Very Low		2. Low		3. Medium		4. High		5.Very High	