

Histological preparations (ZOO 262)

Course Designation	Zoo-262	262 حين	رقم المقرر ورمزه
Course Name	Histological preparations	تحضيرات مجهرية	اسم المقرر
No. of Credits	2 (1 + 1)	2 ساعات (1 + 1)	عدد الوحدات الدراسية المعتمدة
Prerequisites	None	لا يوجد	متطلب سابق
Co-requisite Course	None	لا يوجد	متطلب مصاحب

Exams

Midterm exams (30%)

Midterm1 Exam: Thursday (Week 5) 20-2-2020 @ 1-2 pm (15%)

Lectures 1 to 4

Midterm2 Exam: Thursday (Week 9) 19-3-2020 @ 1-2 pm (15%)

Lectures 5 to 7

Cumulative final exam: (40%)

lectures 1 to 11

Laboratory (30%)

Absence for 25% of course hours (approximately 9 hrs.) including lab hours. student will be deprived from the course

Evaluation and Assessment

	Activities	Grade
1	First midterm exam	15
2	Second midterm exam	15
3	Practical	30
4	Final Examination	40
	Total	100

List of Topics

- Introduction to Histology, and its relation to other sciences. An idea to common terminology in histology
- Different methods in collecting tissue sample from an organism.
- The steps of routine histological preparations starting from fixation
- The objectives of fixation as the first step after obtaining tissue.
- Studying the different types of fixatives and give some examples for each type.
- Studying factors that affect fixation
- Studying different steps for preparation of histological slides (Tissue processor), including Dehydration (The definition, the aim, and the chemical reagents which can be used)
- Studying Clearing and infiltration. (The definition of each step, the aim of each step, and the chemical reagents which can be used in each step)
- To study the embedding step, its definition, the purpose of this step).
- Paraffin wax as a typical embedding material (its chemical composition, its properties, methods to improve its properties).
- Comparing between the manual routine histological preparations and the automated histological preparation using tissue processor machine. How to hold the tissue sections on glass slide.

- Staining the tissue. Different types of stains, and an example from each type. Focusing on haematoxylin and eosin stain. Mounting
- Studying the structure of different microscopy (light, phase-contrast, polarized and fluorescent), and compare between them.
- Studying the structure of electron microscope, giving an idea of how to prepare tissue to be visualized under electron microscope.

Week	Content	Date
1	Introduction + Sciences (Lecture 1, page 1 - 2)	
2	Lecture 2, p 3 -7	
3	Lecture 3, p 8-10	
4	Lecture 4, p 11-13	
5	M1 Exam	20-2-2020 @ 1-2 pm (15%)
6	Lecture 5, p 14-18	
7	Lecture 6, p 18-21	
8	Lecture 7, p 22-24	
9	Lecture 8, p 25- Immunohistochemistry	19-3-2020 @ 1-2 pm (15%)
10	Lecture 9, p 26- Electron microscopy and Flow cytometry	
11	Lecture 10, p 27 Molecular Pathology and Cytogenetics	
12	Lecture 11, p 28 continue Molecular Pathology and Cytogenetics	
13	M2 Exam	16-4-2020 @ 1-2 pm (15%)
14	Revision/Quiz	23-4-2020 @ 1-2 pm
15	Make up test	30-4-2020 @ 1-2 pm
16	Final	10-09-1441 3-5-2020 الاحد ساعة 9 ص