



The University of Jordan
Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	General Histology
2	Course number	0502111
3	Credit hours (theory, practical)	2 (1 theory, 1 practical)
	Contact hours (theory, practical)	3 theory, 12 practical
4	Prerequisites/co requisites	
5	Program title	Pre MD/Dent. program -
6	Program code	
7	Awarding institution	School of Medicine
8	Faculty	School of Medicine
9	Department	Anatomy and Histology
10	Level of course	1st year premedical/dental students
11	Year of study and semester (s)	2021/2022 second semester
12	Final Qualification	MD/DDS
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Date of production/revision	25/02/2022

16. Course Coordinator:**Dr. Ghada Abughanam (Week: 1-3)**

School of Medicine

First floor

Tel: 065355000/23435

Email: g.abuelghanam@ju.edu.jo**Dr. Hanan Jafar (Week: 4-9)**

School of Medicine

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Dr. Heba Kalbouneh (Week: 11-15)

School of Medicine

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Tel: 065355000/23480

Email: heba.kalbouneh@ju.edu.jo , heba.kalbouneh@gmail.com**17. Other instructors:**

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18. Course Description:

Lecture topics and laboratory experiences incorporate the basic topics in microscopic anatomy of the human body. The course deals with basic tissues (epithelium, connective tissue (including: adipose tissue, bone and cartilage), muscles and nerves). In the lectures (1hour/week), the normal microscopic and submicroscopic structure of cells and tissues of the body are described. In Laboratory sessions (2hour/week), you will examine and analyze the materials being studied using both light and electron microscopy micrographs. Sets of specimens for each module are available to be examined under the compound microscope. Students should be able to differentiate the various histological structures from each other. Functional correlations often with some elements of clinical significance are presented throughout the course.

19. Course aims and outcomes:**A- Aims:**

The knowledge that you will derive from this course will extend what you learn in Gross Anatomy. In addition, your study of cells, tissues and organs will correlate with information on their function that you receive in this and other courses. This course will also provide basic knowledge concerning the structure and function of normal cells, tissues and organs, which is a prerequisite for the study of their pathology.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...

- 1- learn basic light microscope setup and use
- 2- Describe normal cell function
- 3- Learn tissue preservation and the processing steps for Formalin-fixed paraffin-embedded samples.
- 4- Recognize the different types of light microscope acquired images (bright field , phase contrast, fluorescent).
- 5- Learn the principals of immunostaining and the ability to differentiate between the different types.
- 6- Identify the organization of normal cells into tissues
- 7- Recognize and differentiate the type of tissue under light microscope of H&E stained slides
- 8- Identify the differential characteristics of cells, tissues, and organs
- 9- Recognize the variations in structure that fall within the normal range
- 10- Explain the relationships of structure and function
- 11- Learn to compare normal with abnormal tissues at the light microscopic level
- 12- Describe the histology of tissue using appropriate medical terminology
- 13- Demonstrate critical thinking skills to describe possible pathologic outcomes of dysfunctional cells and tissues
- 14- Develop communication skills by effective interaction with peers and academic staff
- 15- Deal with colleagues in an honorable and generous way

20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs
Overview of histology Cell overview	1	Dr. G. Abughanam	<ul style="list-style-type: none"> - Label normal cell structure. - Learn the principals of tissue preservation, and the steps for tissue processing for FFPE samples. - Describe basophilia and acidophilia. - Learn the concept of special staining especially immunostaining. - Learn the basic parts of the compound microscope and how to calculate the final magnification. - Learn the different types of light microscope: bright field, phase-contrast, and fluorescent. - Learn the principal of an electron microscopy, and gain ability to differentiate images acquired by the TEM/SEM.
Epithelium and glands	2,3	Dr. G. Abughanam	<ul style="list-style-type: none"> - List the principal functions of epithelial tissues - Give examples of epithelia that derived from each embryonic germ layer - Structural and functional characteristics of epithelial tissues that distinguish them from other tissue types - Classify epithelia according to morphological criteria. - Relate structure and function in epithelia - Give examples of named epithelia: structure, location, function - Identify different types of epithelia - Identify goblet cells. - Identify microvilli and cilia cells. - Describe different types of epithelial cell junctions. - Describe the basal lamina in terms of its location, composition, staining properties. Compare basal lamina and basement membrane.
Glands	4	Dr. Hanan Jafar	<ul style="list-style-type: none"> - Explain the criteria used for classification of the glands. - Distinguish between endocrine glands and exocrine gland. - Identify glands according secretory duct. - Identify glands according secretion type. - Identify mucus glands. - Identify serous glands. - Identify seromucus glands. - Give examples of body's sites where each type can be found - Understand the regeneration of the glands. - Examine a set of microscopic slides for epithelium

			under the compound microscope -
Connective tissue, adipose tissue	5,6	Dr. Hanan Jafar	<ul style="list-style-type: none"> - State the general functions of connective tissues. - State the names and properties of the principal fibers and cell types of CT - Outline the role of the matrix in conferring differing properties of CT. - Give the basis of the morphological classification of CT. - Relate structure to function of the different types of CT. - Identify the tissue, fibroblasts, macrophages, mast cells and plasma cells. - Identify collagen fibers, reticular fibers and elastic fibers. - Identify the loose connective tissue. - Identify regular dense connective tissue. - Identify irregular dense connective tissue. - Differentiate between brown and white adipose tissue in term of structure, location and function. - Examine a set of microscopic slides for connective tissue under the compound microscope
Cartilage	7	Dr. Hanan Jafar	<ul style="list-style-type: none"> - Differentiate cartilage tissue from other body tissues. - Differentiate the three types of cartilage. - Identify hyaline cartilage tissue. - Identify the elastic cartilage. - Identify the fibrocartilage. - Give examples of body's sites where each type can be found - Differentiate the extracellular matrix of chondrocytes. - Identify isogenic groups. - Locate the perichondrium in the two types of cartilage that arise. - Describe the two types of cartilage growth - Examine a set of microscopic slides for cartilage under the compound microscope
Bone tissue and bone ossification	8,9	Dr. Hanan Jafar	<ul style="list-style-type: none"> - Identify and differentiate between the compact bone and spongy bone. - Identify the growth plate and articular cartilage. - Describe the bone matrix. - Identify the osteons and Haversian canals. - Differentiate between osteoblasts, osteocytes and osteoclasts - Examine a set of microscopic slides for bone under the compound microscope. - Describe the basic steps of endochondral and intramembranous ossification and give examples - Differentiate between woven and lamellar bone. - Examine a set of microscopic slides for bone ossification under the compound microscope
	10		

Eid- Aladha			
Muscle tissue	11,12	Dr. Heba Kalbouneh	<ul style="list-style-type: none"> - Describe the structure and function of the different types of muscle. - Comment on their appearance in section. - Describe the basic structure of skeletal muscle contractile cells - Describe the fiber-types of skeletal muscle. - Define a motor unit. - Describe the basic structure of cardiac muscle contractile cells. - Identify the sarcomere as a morphofunctional unit of the mechanism of contraction in skeletal and cardiac muscle tissue. - Identify the intercalated disks in heart cells. - Describe the basic structure of smooth muscle contractile cells. - Identify the epimysium, the perimysium and endomysium - Examine a set of microscopic slides for muscle tissue under the compound microscope
Nervous tissue	13,14,15	Dr. Heba Kalbouneh	<ul style="list-style-type: none"> - Organize the nervous system into structural and functional divisions - Compare sensory and motor functions - Distinguish between the somatic and autonomic nervous systems - Identify the cellular components of nervous tissue (neurons and neuroglia) - Describe the structure of a neuron. - Differentiate between axon and dendrite. - Describe the structural classification of neurons (multipolar, unipolar, bipolar and anaxonic.

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

- **PowerPoint presentations**
- **Using animations to illustrate basic histological principles, integrate histological structure with physiological function, and assist students to create mental pictures as they learn.**
- **Histology exercises and quizzes that consist of multiple-choice questions will be available for each module of study.**
- **An online chat session will be available at the end of each course to address questions related to the lectures and laboratory sessions.**
- **Web based resources: <http://www.histologyguide.org/index.html>**

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment

methods and requirements:

Assessment 1: Midterm Exam 40%

Assessment 2: Final Exam 60% (30% theory, 20% practical)

23. Course Policies:

A- Attendance policies:

Students are expected to attend all class sessions as listed on the course calendar.

Make-up appeals are considered only for students who provide documentation of a compelling reason for missing the exam.

C- Health and safety procedures:

College Members and students must at all times, conform to Health and Safety rules and procedures.

D- Honesty policy regarding cheating, plagiarism, misbehavior:

As a student in this course (and at this university) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the classroom. . Students violate this policy would be subjected to disciplinary action according to University of Jordan disciplinary policies

E- Grading policy:

Grade-point average according to grading policy at University of Jordan

F- Available university services that support achievement in the course:

Internet database at the University of Jordan

The University of Jordan library

Electronic computer laboratory

Histology laboratory equipped with compound microscopes

24. Required equipment:

Computers, compound microscopes, specimen slides

25. References:

A- Required book (s), assigned reading and audio-visuals:

Junqueira's Basic Histology, Text and Atlas, 14th, 15th, 16th editions, By Anthony L. Mescher (main textbook).

B- Recommended books, materials, and media:

Color Textbook of Histology, 4th edition, by [Leslie P. Gartner](#) and [James L. Hiatt](#).

Web based resources: <http://www.histologyguide.org/index.html>

26. Additional information:

Name of Course Coordinator: -----Signature: ----- Date: -----

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

Copy to:

Head of Department
Assistant Dean for Quality Assurance
Course File