Republic of Yemen

Ministry of Higher Education & Scientific Research

21 SEPTEMBER UNIVERSITY of MEDICALS & APPLIEED

SCIENCES

Faculty of Laboratory medicine..

Course Specification of Histology & Cytology
Course No. (01,01.304)

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Aref Saleh Abdulmughni	Dr. Gamil Taher Abdul Mughni		Dr\Gamil Taher Abdul Mughni	Associate Prof. Dr. Ebtesam Al-Zabedi

I. Course Identification and General Information:

1	**Course Title:**	Histology & Cytology				
2	**Course Code & Number:**	01.01.304				
3	**Credit Hours:**	**Theory Hours**				
		Lecture	**Exercise**	Practical	**Credit Hours**	
		2	0	2	3	
4	**Study Level/ Semester at which this Course is offered:**	1st Level / 2nd Semester				
5	**Pre –Requisite (if any):**	General Biology				
6	**Co –Requisite (if any):**	None				
7	**Program (s) in which the Course is Offered:**	Faculty of Laboratory medicine				
8	**Language of Teaching the Course:**	English				
9	**Study System:**	semester				
10	**Mode of Delivery:**	Regular				
11	**Location of Teaching the Course:**	University Campus				
12	**Prepared by:**	Dr. Aref Saleh Mohammed Abdulmughni				
13	**Date of Approval:**	2023				

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II. Course Description:

The course describes the basic knowledge of the structure, function, and organization of the cells, tissues, and organs of the human body.

III. Alignment Course Intended Learning Outcomes with program outcomes

III. Course Intended Learning Outcomes (CILOs)		Referenced PILOs
A. Knowledge and Understanding: ***Upon successful completion of the course, students will be able to:***		
a1	Recognize the basic knowledge of the structure, function, and organization of the cells, tissues, and organs of the human body.	**A1**
a2	Name the specific type of tissues and cells and List and label the specific location of cells, tissue types in the body.	**A2**
a3	Describe the functional capabilities of each tissue type and relate them to the structure and justify the cells, tissues and organs, their functions and the major components	**A1**
B. Intellectual Skills: ***Upon successful completion of the course, students will be able to:***		
b1	Perform microscopic examination of cells, tissues and body organs.	**B1**
C. Professional and Practical Skills: ***Upon successful completion of the course, students will be able to:***		
c1	**Recognize** and differentiate between types of cells and tissues in histological slides.	**C1**
c2	**Draw** and label histological slides seen during the course.	**C2**
D. Transferable Skills: ***Upon successful completion of the course, students will be able to:***		
d1	Work effectively in team.	**D1**

IV. Alignment Course Intended Learning Outcomes with Teaching Strategies and Assessment

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methods:			
(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1	Recognize the basic knowledge of the structure, function, and organization of the cells, tissues, and organs of the human body.	Lectures	Exams
a2	Name the specific type of tissues and cells and List and label the specific location of cells, tissue types in the body.	Lectures	Exams
a3	Describe the functional capabilities of each tissue type and relate them to the structure and justify the cells, tissues and organs, their functions and the major components	Lectures	Exams
(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1	Perform microscopic examination of cells, tissues and body organs.	Lectures, Laboratory practical,	Home work exams
C Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
c1	Demonstrate the structural features and different tissue elements of each organ under the microscope.	Laboratory practical	Practical exam
c2	Draw and label histological slides seen during the course.	Laboratory practical	Practical exam
(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1	Work effectively in team.	lectures	seminars

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V. Course Content:

A – Theoretical Aspect:

NO.	Units/Topics List	Number of Weeks	contact hours	Learning Outcomes (CILOs)	
1	Introduction, Micro-techniques, and staining	1	2	a1,a2	
2	Cytology: cell membrane. Cytology (cell organoids, cytoskeleton, cell inclusion). Nucleus (DNA, chromatin, Chromosomes, Chromosomal abnormality).	1	2	a1,a3,	
3	Epithelium (surface epithelium, glandular epithelium, cell junctions). Connective tissue (CT) general characters, and CT fibers. Connective tissues cells, CT proper.	1	2	a1,b1	
4	Cartilage; Cartilage cells, types of cartilage. Bone; bone cells, types of bone, bone healing.	1	2	a1,a2	
5	Blood; blood plasma, blood cells, bone marrow, hematopoiesis.	1	2	a1,a2,a3	
6	Muscular tissue; structure of muscle cell fibers, types of muscles.	1	2	a2,b1	
7	(skeletal muscles, cardiac muscle, smooth muscles).	1	2	a1,a2,a3,	
8	MED TERM	1	2		
9	Nervous tissue; brain, spinal cord, structure and types of nerve cells, types of nerve fibers, nerve ganglion, injury and healing of nerve cells).	1	2	a1,a2,a3,b1	
10	Vascular system: arteries, veins, blood capillaries, blood sinusoids.	1	2	a1,a2,a3,b1	
11	Lymphatic system: immunity, lymph nodes, spleen, thymus gland.	1	2	a1,a2,a3,b1	
12	Respiratory system: nasal cavity, trachea, bronchial tree, lung.	1	2	a1,a2,a3	
13	Digestive system: oral cavity, gastro-intestinal tube, liver, pancreas.	1	2	a1,a2,a3,b1	

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14	Urinary system: kidney, urinary tract.	1	2	a1,a2,a3,b1	
15	Reproductive system: male and female reproductive organs; such as testis, ovary, uterus.	1	2	a1,a2,a3,b1	
16	FINAL THEORTICAL	1	2		
	Total	**16**	32		

B - Practical Aspect: (if any)

Order	Tasks/ Experiments	Number of Weeks	contact hours	Learning Outcomes
1	**Introduction (lab sessions instructions , dealing with microscope,) Epithelium (types and location of simple epithelia)**	**1**	**2**	c1,c2,d1
2	**Epithelium (types and location of stratified epithelia) "Connective Tissue. connective tissue proper , cartilage, Blood, Lymphatic vessels and bone)"**	**1**	**2**	c1,c2,d1
3	**Nervous tissue Cardiac muscle**	**1**	**2**	c1,c2,d1
4	**Skeletal and smooth muscle Tongue and salivary gland**	**1**	**2**	c1,c2,d1
5	**Thyroid gland Esophagous and stomach**			c1,c2,d1
6	**Small intestine Large intestine**	**1**	**2**	c1,c2,d1
7	**Liver and pancreas Gall bladder**	**1**	**2**	c1,c2,d1
8	**Ureters Bladder**	**1**	**2**	c1,c2,d1

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9	**Male reproductive system- testis**	**1**	**2**	c1,c2,d1
10	**Female reproductive system-ovary** **Female reproductive system-uterus**	**1**	**2**	c1,c2,d1
11	**Breast**	**1**	**2**	c1,c2,d1
12	**Respiratory Tract- trachea** **Lung**	**1**	**2**	c1,c2,d1
13	**Skin**	**1**	**2**	c1,c2,d1
14	**Lymph nodes** **Spleen**	**1**	**2**	c1,c2,d1
15	**Final exam**	**1**	**2**	
Number of Weeks /and Units Per Semester		**15**	**30**	

V. Teaching Strategies of the Course:	
1-	Lectures
2-	practical session
3-	Seminars

VI. Assessment Methods of the Course:

No	Assignment
1	Written Exams (Short Essays) and Quizzes
2	Multiple Choice Questions (MCQ)
3	Practical Exams (PE)

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VII. Assignments:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	**Midterm Exam**	8	20	20%	a1,a2,a3,b1
2	**Practical exam**	14	30	30%	c1,c2,d1
3	**Final Exam**	16	50	50%	a1,a2,a3,b1
	Total	100		100%	

X. Learning Resources:

1- Required Textbook(s)	
1-	**Course notes**: Handouts of lectures (either soft or hard copies)
2-	**Text book** -Atlas of Histology with functional correlation. Di Fiore's International Edition 9th (2000). -Textbook of Human Histology (4th Edition) Inderbir Singh Jaypee Brother, 2002
2- Essential References.	
1-	Basic histology, Junqueira, L.C.12th ed. 2015
2-	Atlas of histology: Di Fiore, 2015 Functional Histology (Wheater's) Text & Atlas of Histology, 2014
3- Electronic Materials and Web Sites *etc.*	
1-	British journal of anatomy
2-	Journal of clinical anatomy
3-	www.innerbody.com
4-	www.instantanatomy.net

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X. Course Policies: (Based on the Uniform Students' By law (2007)	
1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply**.**
7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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