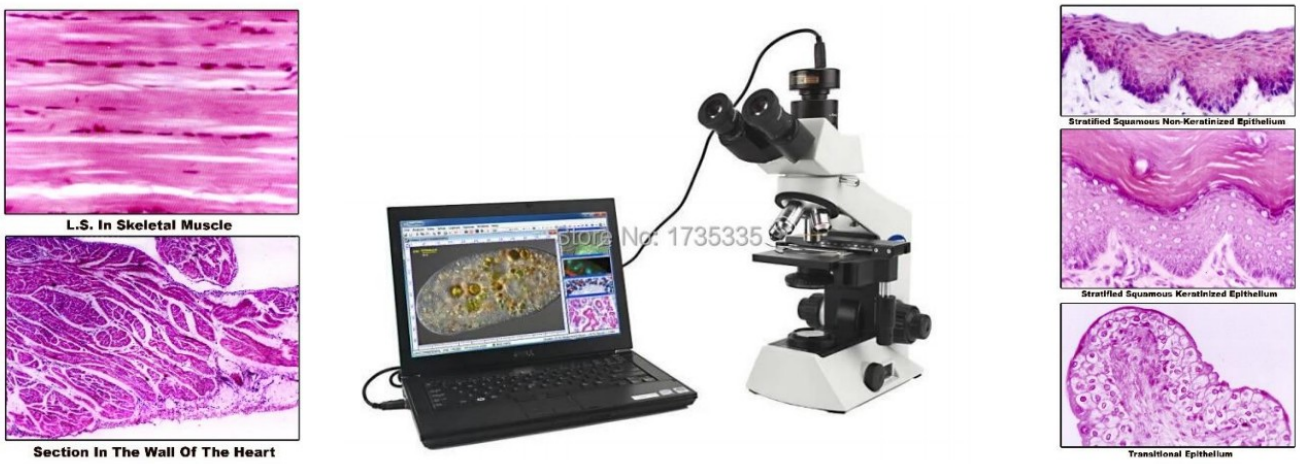
Kingdom of Saudi Arabia
Ministry of Higher Education
Northern Border University (NBU)
College of Medicine
Department .....

المملكة العربية السعودية
وزارة التعليم
جامعة الحدود الشمالية
كلية الطب
قسم .....

STUDY GUIDE

CELL & TISSUES CORE COURSE 1207221



Course coordinators

Male section : Dr.Saad Hassan Elshafey (saad.alshafey@nbu.edu.sa)
Female section : Dr. Naglaa Ahmed Bayomi (Najlaa.bayoumy@nbu.edu.sa)

Course Identification

1. Credit hours	2
2. Level/year at which this course is offered	2nd Year; 3rd Semester
3. Pre-requisites for this course	**NIL**

Course contributors names

No	Name of the contributors	Email ID
	Dr.Saad El Shafy Dr. Naglaa Bayomy	saad.hassan91@yahoo.com saad.alshafey@nbu.edu.sa naglaa_@hotmail.com Najlaa.bayoumy@nbu.edu.sa

Actual learning hours:

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	**23**
2	**Laboratory**	**10**
	Total	**33**
***Other Learning Hours**		
1	**Study**	**42**
	Total	**75**

A.Course Objectives and Learning Outcomes

1. Course Description

At the start, the course describes different types of micro-techniques and how to use light microscope. The course describes the electron microscopic structure and functions of cell membrane, different types of cell organelles and cell inclusions. It illustrates the contents of the nucleus in addition to chromosomal study. The course demonstrates the microscopic structure of different types and sites of epithelium. It illustrates the types, site sand function of connective tissue. The course describes light & electron microscopic structure of muscular tissues. It discusses the structure and functions of nervous tissue. Finally, the course describe structure and function of skin.

2. Course Main Objective

On completion of this (course/module) the students should be able to :

a) Recognize the normal structure of human cell and its components and their function in the cell.
b) Analyze the main characteristics of the human basic tissues (epithelium, connective, skin and nervous tissues).
c) Differentiate between different types of tissues and organs using the light microscope.
d) Correlate the structure to function of different organs.

B. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.1	Describe the structure of the human cell and its different organelles and their functions.	K1
1.2	Describe the structure and types of epithelium, connective tissue, muscular and nervous tissues	K1
2	**Skills:**	
2. 1	Differentiate the cell organelles and the different types of epithelial, connective, muscular and nervous tissues.	S1

C. Course Contents:

No	List of Topics	Contact Hours
.1	The cell & cell membrane	1
.2	Mitochondria & ribosomes	1
.3	Endoplasmic reticulum & Golgi apparatus	1
.4	Lysosomes & peroxisomes	1
.5	Cytoskeletons (filaments & microtubules)	1
.6	Centriole, cilia & flagella and Cell inclusions	1
.7	Nucleus & nuclear envelope	1
.8	Nucleolus, nuclear sap & chromatin	1
.9	Cell cycle (mitosis & interphase)	1
.10	Meiosis	1
.11	Karyotyping & Barr body	1
.12	Covering Epithelium	1
.13	Neuro-epithelium & surface epithelial specializations	1
.14	Glandular Epithelium	1
.15	Connective tissue proper 1 (matrix & fibers)	1
.16	Connective tissue proper 2 (cells)	1
.17	Connective tissue proper 3 (types)	1
.18	Nervous tissue 1 (neuron)	1
.19	Nervous tissue 2 (classification of neurons & nerve fibers)	1

.20	Nervous tissue3 (synapse , ganglia & neuroglia)	1
.21	Skin 1 (keratinocytes)	1
.22	Skin 2 (other cells of epidermis – Dermis)	1
.23	Skin 3 (sweat gl., sebaceous gl. & hair follicles)	1
	Practicals	
1.	Microtechniques	1
2.	Staining methods & microscopes	1
3.	Demonstration of Membranous cell organelles	1
4.	Demonstration of Non Membranous cell organelles	1
5.	Demonstration of Nucleus & stages of cell division	1
6.	Demonstration of simple Epithelium	1
7.	Demonstration of stratified Epithelium	1
8.	Demonstration of Connective tissue proper	1
9.	Demonstration of Nervous tissue	1
10.	Demonstration of Skin	1
Total		33

D. Teaching and Assessment

1. Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge**		
1.1	Describe the structure of the human cell and its different organelles and their functions.	Direct instructional (lecture)	- Written exams (MCQs & SAQs).
1.2	Describe the structure of the human tissues; epithelium, connective tissue, nervous tissues and skin.	Direct instructional (lecture)	- Written exams (MCQs & SAQs).
2.0			

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	Skills		
2.1	Differentiate the cell organelles and the different types of epithelial, connective, nervous tissues and skin.	- Laboratory based strategy	OSPE

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
2	Midterm	6th	25 %
3	Assignment	10th	15 %
4	Final exam	End of semester	40%
5	OSPE	End of semester	20%

Course blueprint

Course title: CELL & TISSUES
Course code: 1207221

Teaching and Assessment Blueprint

Topics	Teaching strategies	Assessment methods	Knowledge			Skill			Competency			% of total contact hours	% of total summative marks
			K1	K2	...	S1	S2	...	C1	C2	...		
The cell & cell membrane	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Mitochondria & ribosomes	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Endoplasmic reticulum & Golgi apparatus	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %

Topics	Teaching strategies	Assessment methods	Knowledge			Skill			Competency			% of total contact hours	% of total summative marks
			K1	K2	...	S1	S2	...	C1	C2	...		
Lysosomes & peroxisomes	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Cytoskeletons (filaments & microtubules)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.4 %
Centriole, cilia & flagella and Cell inclusions	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Nucleus & nuclear envelope	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Nucleolus, nuclear sap & chromatin	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Cell cycle (mitosis & interphase)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Meiosis	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Karyotyping & Barr body	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.4 %
Covering Epithelium	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Neuro-epithelium & surface epithelial specializations	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Glandular Epithelium	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Connective tissue proper 1 (matrix & fibers)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Connective tissue proper 2 (cells)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Connective tissue proper 3 (types)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %

Topics	Teaching strategies	Assessment methods	Knowledge			Skill			Competency			% of total contact hours	% of total summative marks
			K1	K2	...	S1	S2	...	C1	C2	...		
Nervous tissue 1 (neuron)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Nervous tissue 2 (classification of neurons & nerve fibers)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Nervous tissue3 (synapse , ganglia & neuroglia)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.5 %
Skin 1 (keratinocytes)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.4 %
Skin 2 (other cells of epidermis – Dermis)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.4 %
Skin 3 (sweat gl., sebaceous gl. & hair follicles)	Lecture	Written exams	K1	-	-	-	-	-	-	-	-	3 %	3.4 %
Microtechniques	Lab. based	OSPE	-	-	-	S1	-	-	-	-	-	3 %	1 %
Staining methods & microscopes	Lab. based	OSPE	-	-	-	S1	-	-	-	-	-	3 %	1 %
Demonstration of Membranous cell organelles	Lab. based	OSPE	-	-	-	S1	-	-	-	-	-	3 %	3 %
Demonstration of Non Membranous cell organelles	Lab. based	OSPE	-	-	-	S1	-	-	-	-	-	3 %	2 %
Demonstration of Nucleus & stages of cell division	Lab. based	OSPE	-	-	-	S1	-	-	-	-	-	3 %	3 %
Demonstration of simple Epithelium	Lab. based	OSPE	-	-	-	S1	-	-	-	-	-	3 %	2 %
Demonstration of stratified Epithelium	Lab. based	OSPE	-	-	-	S1	-	-	-	-	-	3 %	2 %
Demonstration of Connective tissue proper	Lab. based	OSPE	-	-	-	S1	-	-	-	-	-	3 %	2 %

Topics	Teaching strategies	Assessment methods	Knowledge			Skill			Competency			% of total contact hours	% of total summative marks
			K1	K2	…	S1	S2	…	C1	C2	…		
Demonstration of Nervous tissue	Lab. based	OSPE	-	-	-	S1	-	-	-	-	-	3 %	2 %
Demonstration of Skin	Lab. based	OSPE	-	-	-	S1	-	-	-	-	-	3 %	2 %

Course/module Coordinator	D. Saad Hassane Elshafey
Department	Anatomy
Date	

Learning Resources and Facilities

1.Learning Resources

Required Textbooks	1. Color Textbook of Histology; 3rd ed.; Gartner LP & Hiatt JL; WB Saund Company; 2007. 2. Janqueira's Basic Histology; 12th ed.; Anthony Mescher; 2010.
Essential References Materials	List Electronic Materials, Web Sites, you tube, Flash cards etc
Electronic Materials	Computer-based programs/CD, professional standards , regulations and software
Other Learning Materials	Power points.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	There are two classrooms for students, each includes 30 seats and contains an appropriate data show.

Item	Resources
Technology Resources (AV, data show, Smart Board, software, etc.)	a. Data show projectors. b. Smart Board c. Laptop d. desktop
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	NIL

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students	Indirect assessment
Extent of achievement of course learning outcomes	Instructor Students	Direct assessment Indirect assessment
Quality of learning resources	Student	Indirect assessment

H. Specification Approval Data

Council / Committee	**Anatomy Department Committee**
Reference No.	**1207221**
Date	

After the end of the course, please give your **FEEDBACK** through the following QR code: