Mansoura University
Faculty of Medicine

Log Book

Histology Department

2016 - 2017

ختم القسم

إيصال تسليم Log Book

اسم الطالب : .....

الفرقة : .....

رقم الجلوس : .....

تاريخ التسليم : .....

توقيع المستلم : .....

رسالــة الكلــية

"تقديم مستوى عال التميز فى التعليم والتدريب الطبى
وتقديم خدمات صحية متميزة للمجتمع
عن طريق المراكز الطبية المتخصصة
وكذلك الإرتقاء بالبحث العلمى"

رؤيــة الكلــية

"أن نصنف إقليميا ونحقق التميز فى التعليم الطبى
والبحوث وخدمة المجتمع"

Histology 1 Course Specifications

Faculty : Medicine
Department : Histology & Cell Biology

Course Specifications

Programme(s) on which the course is given :	MB.B ch.
Major or minor element of programmes :	Histology & Cell Biology
Department offering the programme :	Histology & Cell Biology
Department offering the course :	Histology & Cell Biology
Academic year / level :	1st year Medical students
Date of specification approval :	24/2/2016

A- Basic information

Title: Histology 1 Code: HIS1

Lecture: 2 Tutorial: 1 Practical 1.5 Total: 4.5 (hour/week)

Total:

Lectures: 60 hours Tutorial: 35 Practical: 40

B- Professional Information

1 - Overall Aims of Course

This course aims to help students to know different histological tools and techniques, bases of cytogenetic, the normal structures of the cell and the four basic tissues of the body (epithelium, connective tissue, muscle tissue and nervous tissue) and apply the skill of correlating between function and structure of various tissues and their clinical significance and practical recognition of different types of tissues under light and electron microscope.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding

a1- Describe the basic steps in preparing and staining specimens for light and electron microscopy
a2- Describe the histological characteristics of normal cells
a3- Describe the structure and functions of the cytoplasmic components (membranous and non membranous cell organelles, cell inclusions)
a4- Recognize the subunits of each nuclear component and their role in its function
a5- Describe the process of cell division and identify the activities that control the transition from each phase of the cell cycle to the other
a6- Differentiate between normal and abnormal karyotyping
a7- Describe the structural characteristics of the four basic tissue types, bone & cartilage
a8- Describe and compare between different blood elements and their development
a9- Define and discuss the basic histological tissues of the body (General histology) and some systems in the second term (Vascular , Lymphatics, Respiratory & Reticulo-endothelial)

b- Intellectual Skills

b1- Select appropriate methods to reveal specific microscopic features of cells and tissues
b2- Correlate between histological structure & function of any cell or tissue
b3- Interpret a complete blood picture report

c- Professional and Practical Skills

c1- illustrate the instruments and techniques used to prepare and study histological specimens
c2- Use the microscope efficiently
c3- Handle the histological glass slides and examine them using the maximum microscopic facilities
c4- Identify various types of stains & micro techniques
c5- Elicit different cell organelles
c6- Differentiate between different blood cells in blood films & recognize a differential leucocytic count
c7- Differentiate between different types of epithelium, connective tissue cells, connective tissue proper & bone cells
c8- Differentiate between different organs in histological slide seen under the microscope
c9- Draw and label the structures they have seen in electron photomicrographs and under light microscope during practical classes
c10- Elicit histological slides of tissues and organs

d- General and Transferable Skills

d1- Adopt the importance of life long learning and show a strong commitment to it
d2- Use the sources of biomedical information to remain current with advances in knowledge and practice
d3- Collect information to enhance self study and education
d4- Expres themselves freely and adequately by improving their descriptive capabilities and presentation skills and enhancing their communication skills.

3 Contents

Topic	No. of hours	Lecture	Practical
Introduction and Microtechniques	4.5	2	2.5
The Cell	20.5	9	11.5
Nucleus and Genetics	12	7	5
Cell Division & chromosomal anomalies	8	2	6
Epithelium	12.5	5	7.5
Connective Tissue	10	5	5
Cartilage	3.5	1	2.5
Bone	9	4	5
Muscle Tissue	9	4	5
Nervous Tissue	11.5	4	7.5
Blood	10	5	5
Vascular System	8	3	5
Lymphatic System	9	4	5
Respiratory System	6.5	4	2.5
Reticulo-endothelial System	1	1	0
Total	135	60	75

	A									B			C									D			
	A1	A2	A3	A4	A5	A6	A7	A8	A9	B1	B2	B3	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	D1	D2	D3	D4
Introduction and Microtechniques	√									√			√	√	√	√									√	
The cell		√	√							√	√						√				√		√	√		√
Nucleus and genetics				√						√			√								√		√	√		√
Cell division and chromosomal anomalies					√	√				√			√								√			√		√
Epithelium							√		√	√	√								√		√	√		√		√
Connective tissue							√		√	√	√								√		√	√		√		√
Cartilage							√		√	√	√								√		√	√		√		√
Bone							√		√	√	√								√		√	√		√		√
Muscle							√		√	√	√								√		√	√		√		√
Nervous tissue							√		√	√	√								√		√	√		√		√
Blood								√			√	√						√			√			√		√
Vascular system									√		√									√	√	√		√		√
Lymphatic system									√		√									√	√	√		√		√
Respiratory system									√		√									√	√	√		√		√
Reticulo-endothelial system									√	√										√				√		√

4 – Teaching and Learning Methods

4.1- Lectures: - For large group in the auditorium.
- For the small groups in the practical laboratory.

4.2- Self-learning:
Students are divided into small groups (5 students each); each group is issued a topic for working as a team (to search on it, collect information and present it in a power point presentation) and present them in front of their peers and senior staff. A soft copy of presentation is collected at the end of the round**.**

4.3- Practical sessions to gain practical skills & drawing.

5- Student Assessment Methods:

Types of assessment: Assessment ILOs Matrix

	A									B			C										D			
	A1	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**A9**	**B1**	**B2**	**B3**	**C1**	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**	**C8**	**C9**	**C10**	**D1**	**D2**	**D3**	**D4**
Written exams: (Short essays &MCQ)		√	√	√	√	√	√	√	√	√																
Structured Oral Exam		√	√	√	√	√	√	√	√	√	√	√											√			
Structured Practical Exams	√					√				√	√	√	√	√	√	√	√	√	√	√	√	√				
Course assignment:																										
- Presentation																							√	√	√	√
-Practical book																					√					
-Log book	√	√	√	√	√	√	√	√	√	√	√	√														

Assessment Schedule

Assessment 1	MCQ mid-year assessment
Assessment 2	Course assignment (presentations, practical & log books)
Assessment 3	Final practical examination
Assessment 4	Final written examination+ MCQ
Assessment 5	Final structured oral examination

Weighting of Assessments

Assessment 1	13.3 %	20 degrees
Assessment 2	6.7 %	10 degrees
Assessment 3	20%	30 degrees
Assessment 4	50 %	75 degees (50 Short essays(67%) + 25 MCQ (33%)
Assessment 5	10%	15 degrees
Total	100 %	150 degrees

6 – List of References

6.1- Course Notes

6.2- Essential Books (Text Books)

6.3- Recommended Books Basic Histology, Bloom & Fawcet Histology and Ham's Histology

6.4- Periodicals, Web Sites *http://www.med-ed-online.org*

7 – Facilities Required for Teaching and Learning

7.1- Over head projector
7.2- Data show power point
7.3- Board and chalk
7.4- Smart board
7.5- Microscopes, histological slides
7.6- Library
7.7- CDs
7.8- Internet

Course Coordinator : **Dr. Samar Asker**
Dr. Dalia Abdelrahman Shabaan

Head of Department : **Dr. Salwa Gawish**

24/2/2016

Mansoura University
Faculty Of Medicine
Histology and Cytology

جامعة المنصورة
كلية الطب
قسم الأنسجة و الخلايا

Blueprint

توزيع الدرجة الكلية للإمتحان التحريري للفرقة الأولى على موضوعات المقرر طبقاً للوزن النسبي لكل موضوع

موضوعات المقرر التي سيتم تدريسها:

Topics actually taught	No. of hours	Lecturers
Introduction and Microtechniques	2	أ. د. سلوى جاويش
The Cell	9	أ.م. سمر عادل عسكر د.نهلة رضا
Nucleus and Genetics& chromosomes	7	أ. د. سلوى جاويش د. نسرين مصطفى
Cell Division	2	د. أماني الهواري
Epithelium	5	أ.د. عوني حسن يسن
Connective Tissue	5	ا.د. داليا رفعت البسيوني
Cartilage	1	ا.د. أمل مصطفى
Bone	4	ا.د.أمل مصطفى
Muscle	4	د. أحمد عبد الحميد
Nervous Tissue	4	أ. د. عصام عبد المجيد المهندس
Blood	5	أ. د. أماني سامح اللقاني
Vascular System	3	أ. د. زينب عبد الحي صقارة
Lymphatic System	4	أ. د. درية أحمد نصير
Respiratory System	4	د. علاء لطفي
Reticulo-endothelial System	1	د. داليا شعبان
Total	60	

عدد الساعات التدريسية النظرية لموضوعات المقرر = ٦٠ ساعة

درجات الإمتحانات النظرية= ٢٠+٥٠+٢٥ = ٩٥ درجة

الوزن النسبي للساعة التدريسية الواحدة =٩٥/ ٦٠ = ١,٦

Topics actually taught	No. of hours	R.W.X Hour	Grades assigned
Introduction and Microtechniques	2	2 X 1.6	3
The Cell	9	9 X 1.6	14
Nucleus and Genetics	7	7 X 1.6	11
Cell Division	2	2 X 1.6	3
Epithelium	5	5 X 1.6	8
Connective Tissue	5	5 X 1.6	8
Cartilage	1	1 X 1.6	1.6
Bone	4	4 X 1.6	6.4
Muscle	4	4 X 1.6	6.4
Nervous Tissue	4	4 X 1.6	6.4
Blood	5	5X 1.6	8
Vascular System	3	3 X 1.6	4.8
Lymphatic System	4	4 X 1.6	6.4
Respiratory System	4	4 X 1.6	6.4
Reticulo-endothelial System	1	1 X 1.6	1.6
total	60		95

Head of Department: Dr. Salwa Gawish

Signature

30/3/2016

Mansoura university
Faculty of medicine
Histology and cell Biology Department

Student's Name :

Address :

E-mail :

Serial Number :

Classroom Teaching Group :

Attendance Ratio :

Head of the Department :

Curriculum Content

Histology and Cell Biology Course

- **Theoretical Topics (Lectures): 60 hours**
- **Practical Course: 60 hours**

Academic Teaching Materials :

Introduction and Micro techniques

Histology of the cell

Histology of Nucleus and Genetics

Histology of Cell Division & chromosomal anomalies

Histology of Epithelium

Histology of Connective tissue

Histology of Cartilage

Histology of Bone

Histology of Muscle Tissue

Histology of Nervous Tissue

Histology of Spinal Blood

Histology of Vascular system

Histology of Lymphatic system

Histology of Respiratory system

Reticulo- endothelial system

Practical Course

Staining techniques types of microscopes

Structure of the cell

Structure of Nucleus and Genetics

Structure of Cell Division &chromosomal anomalies

Structure of Epithelium

Structure of Connective tissue

Structure of Cartilage

Structure of Bone

Structure of Muscle Tissue

Structure of Nervous Tissue

Structure of Spinal Blood

Structure of Vascular system

Structure of Lymphatic system

Structure of Respiratory system

Intended Learning Outcomes of Course

♦ Knowledge and Understanding

1- Enlist the basic steps in preparing and staining specimens for light and electron microscopy.
2- Recognize the histological characteristics of normal cells.
3- Identify the structure and functions of cytoplasmic components (membranous and non membranous cell organelles , cell inclusions).
4- Describe the subunits of each nuclear component and their role in its function.
5- Explain the process of cell division and identify the activities that control the transition from each phase of the cell cycle to the other.
6- Describe the structure characteristics of the four basic tissue types (epithelium , connective tissue , muscle tissue and nervous tissue)
7- Describe and classify different blood elements and discuss their development.
8- Discuss the basic histological tissues of body (General histology) and some system (Vascular , Lymphatics &Respiratory).

♦ Intellectual Skills

1- Choose appropriate methods to reveal specific microscopic features of cells and tissues.
2- Distinguish slides different from those seen during his course but of same organs previously studied.
3- Differentiate between normal and abnormal karyotyping.
4- Correlate between histological structure & function of any different cell or tissue.
5- Interpret a complete blood picture report.

♦ Professional and practical skills

1- Employ the instruments and techniques used to prepare and study histological specimens.
2- Use the microscope efficiently.
3- Handle the histological glass slides and examine them using the maximum microscopic facilities.
4- Distinguish various types of stains & microtechniques.
5- Distinguish different cell organelles.
6- Distinguish different blood cells in blood films.
7- Differentiate between different types of epithelium, connective tissue cells. connective tissue proper & bone cells.
8- Differentiate between different tissues and organs in histological slide seen under the microscope.
9- Perform a differential leucocytes count using the blood film.
10- Draw and label the structures they have seen in electron photomicrographs and under light microscope during practical classes.

♦ General and Transferable Skills

1- Use the sources of biomedical information to remain current with advances in knowledge and practice.
2- Express themselves freely and adequately by improving their descriptive capabilities through power point presentation and enhancing their communication kills through communication with their colleague during preparing the topic of presentation.

♦ Attitude :

1- Appreciate the importance of the life long learning and show a strong commitment to it.
2- Self study and education.

Topics actually taught	No. of hours	R.W.X Hour	Grades assigned
Introduction and Microtechniques	2	2 X 1.6	3
The Cell	9	9 X 1.6	14
Nucleus and Genetics	7	7 X 1.6	11
Cell Division	2	2 X 1.6	3
Epithelium	5	5 X 1.6	8
Connective Tissue	5	5 X 1.6	8
Cartilage	1	1 X 1.6	1.6
Bone	4	4 X 1.6	6.4
Muscle	4	4 X 1.6	6.4
Nervous Tissue	4	4 X 1.6	6.4
Blood	5	5X 1.6	8
Vascular System	3	3 X 1.6	4.8
Lymphatic System	4	4 X 1.6	6.4
Respiratory System	4	4 X 1.6	6.4
Reticulo-endothelial System	1	1 X 1.6	1.6
Total	60		95

Student Assessment Methods

1- **Written exams (short essays and MCQs)**
2- **Oral exam**
3- **Practical exam (identification of histological slides)**
4- **Log Book and practical book**
5- **Student activities**
6- **Attendance criteria : The minimal acceptable attendance is 75%**
7- **Formative examinations**

	Assessment Schedule	Weight	Degree
Assessment 1	**MCQ mid – year assessment**	**13.4%**	**20 degrees**
Assessment 2	**Activity, practical book and log book**	**6.6%**	**10 degrees**
Assessment 3	**Final practical examination**	**20%**	**30 degrees**
Assessment 4	**Final written examination**	**50%**	**75 degrees**
Assessment 5	**Final oral examination**	**10%**	**15 degrees**
Total		**100%**	**150 degrees**

Week 1

I. The Microtechniques
II. Staining of paraffin sections with Hematoxylin and Eosin
III. Microscopy

Technique	Uses	Date	Signature

Assessment Question:

What are the resolution powers of light and electron microscopes?

Week 2

The Cell Membrane & Cell Coat

LM	EM	Date	Signature

Assessment Question:

Mention the difference between the inner and outer halves of the cell membrane.

Week 3

The Mitochondria

LM	EM	Date	Signature

Assessment Question:

Describe the shape of the mitochondria by LM & the stains to identify.

Week 4

The Ribosomes

LM	EM	Date	Signature

Assessment Question:

Describe the EM picture of ribosomes.

Week 5

The Endoplasmic Reticulum (ER)

LM	EM	Date	Signature

Assessment Question:

What are the types of ER ?

Week 6

The Golgi Apparatus

LM	EM	Date	Signature

Assessment Question:

Mention the components of Golgi apparatus by EM.

Week 7

The Lysosomes & Preoxisomes

Types	LM	Date	Signature

Assessment Question:

What are the autophagic vacuole & heterolysosome.

Week 8

The Cyotoplasmic filaments

LM	EM	Date	Signature

Assessment Question:

Mention the types of filaments in the cytoplasm.

Week 9

The Cell Inclusions

LM	EM	Date	Signature

Assessment Question:

Describe the glycogen granules by EM ?

Week 10

The Nucleus and Cell Division

LM	EM	Date	Signature

Assessment Question:

EM appearance of Nuclear membrane.

Week 11

The Karyotyping & Chromosomal Anomalies

Name	Karyotyping	Date	Signature

Assessment Question:

What is the Karyotyping of Klinefelter's syndrome.

Week 12

Virtual Lab. I

Slides	Stain	Date	Signature

Week 13

The Epithelial Tissue

Slides	Stain	Date	Signature

Assessment Question:

Types and Sites of pseudostratified colum. epith. Why it is called pseudostratified?

Week 14

The Connective Tissue Proper

Slides	Stain	Date	Signature

Assessment Question:

What are the stains of reticular C.T?

Week 15

The Cartilage

Slides	Stain	Date	Signature

Assessment Question:

What are the types of Cartilage?

Week 16

The Bone

Slides	Stain	Date	Signature

Assessment Question:

Mention the different arrangements of bone matrix in compact bone.

Week 17

The Muscle Tissue

Slides	Stain	Date	Signature

Assessment Question:

Difference between cardiac muscle fiber & Purkinje fiber?

Week 18

The Nervous Tissue

Slides	Stain	Date	Signature

Assessment Question:

What are the difference between the nerve fibers of spinal ganglion and those of autonomic ganglion?

Week 19

Virtual Lab. II

Slides	Stain	Date	Signature

Week 20

The Blood

Slides	Stain	Date	Signature

Assessment Question:

What are the cellular components of blood ?

Week 21

The Blood Vascular System

Slides	Stain	Date	Signature

Assessment Question:

What are the difference between the medium sized artery and vein?

Week 22

The Lymphatic System

Slides	Stain	Date	Signature

Assessment Question:

Parenchyma of Lymph node.

Week 23

The Respiratory System

Slides	Stain	Date	Signature

Assessment Question:

Conducting portion of the respiratory system.

Week 24

Virtual Lab.III

Slides	Stain	Date	Signature

Student Activity

Photo

The Type of the Student Activity:

The Topic of the Activity:

Supervisors on the Activity:

Mark sheet for the activity:

No	Item	Mark
1	Willingly understand the assigned tasks.	0.5
2	Contributed positively to group discussion	0.5
3	Overall was a valuable member of the group	0.5
4	Worked well with other group members	0.5
5	Completed work on time or made alternative arrangement	0.5
6	The work accurately and completely done	0.5
7	The work contained data more than the department book	1.0
8	Quality of the completed work	1.0
Total Marks		5

Date	**Signature**

Assessment

	Mark	Signature
Practical book and log book		
Presentation activity		
Oral examination		