



*Benha University.*  
*Faculty of Medicine.*  
*Department of Histology & Cell Biology.*

### Course Specifications

Course title: *Histology & Cell Biology.*

Code HISTO 0702

**Academic Year (2009 – 2010)**

- Department offering the course: *Histology & Cell Biology.*
  - Academic year of **M.B. & B.Ch.** program: Second Year / under graduate level
- 2009 – 2010.

- Date of specification approval: 2009 – 2010.

#### **A) Basic Information:**

- Allocated marks: 150 marks.
- Course duration: 30 weeks of teaching.
- Teaching hours: 10 hours / week = 300hrs total teaching hours.

	Hours / week	Total hours
1- Lectures	2 hrs/week for 30 weeks	60 hrs
2- Small group teaching / tutorials	1 hrs/week for 30	30 hrs

	<b>weeks</b>	
<b>3- Practical</b>	<b>3 hrs/week for 20weeks</b>	<b>60hrs</b>
<b>Total</b>	<b>30 weeks</b>	<b>150 hrs</b>

## **B) Professional Information:**

### **1- Overall Aim of the Course:**

- 1.1. To enable the students to know the histological structures of normal organs of body system
- 1.2 .To enable the students to correlate between histological structure and functions of various tissue and organs
- 1.3. Give students information about histological structures of various parts of CNS.
- 1.4. To prepare the students for studying histopathology in 3<sup>rd</sup> year

### **2- Intended Learning Outcomes (ILOs):**

#### **2.1. Knowledge and understanding:**

***By the end of the course, students should be able to:***

- 2.1.1. Describe the histological structure of various system by light &electron microscopes
- 2.1.2. Recognize the histological structure of various body organs & system.
- 2.1.3. Discuss the histological structures with correlation to function of various system of the body.
- 2.1.4. Describe various levels of sections in spinal cord & brain stem.
- 2.1.5. Discuss the histological structures with correlation to function of cerebrum and cerebellum.
- 2.1.6. Describe pathways of ascending and descending tracts.
- 2.1.7. Recognize the cell signaling & altered cell behavior.
- 2.1.8. Recognize the altered development, growth, structure and function of the body and mind that will be associated with common clinical conditions.

#### **2.2. Practical and Clinical Skills**

***By the end of the course, students should be able to:***

2.2.1. Diagnose different histological slides for normal body tissues.

2.2.2. Diagnose different histological stains.

### **2.3. Professional Attitude and Behavioral kills:**

***By the end of the course, students should be able to:***

2.3.1. Retrieve, manage, and manipulate information by all means, including electronic means.

2.3.2. Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.

2.3.3. Present information clearly in written, electronic and oral forms.

2.3.4. Work effectively as a member or a leader of an interdisciplinary team.

### **2.4. Communication skills:**

***By the end of the program the graduate will be able to:***

2.4.1. Communicate clearly, sensitively and effectively with patients and their relatives, and colleagues from a variety of health and social care professions.

2.4.2. Establish good relations with other health care professionals regardless their degrees or rank (top management, subordinate or colleague).

2.4.3. Communicate effectively with individuals regardless of their social, cultural, ethnic backgrounds, or their disabilities.

2.4.4. Cope up with difficult situations as breaking news.

2.4.5. Respect patients and their relatives, superiors, colleagues and all members of the health profession.

### **2.5. Intellectual Skills:**

***By the end of the course, students should be able to:***

2.5.1. Recognize common ethical dilemmas and suggest a proper solution.

2.5.2. Analyze case scenario of clinical correlations with histological issues.

**Skills:**

***By the end of the course, students should be able to:***

- 2.6.1. Recognize different histological slides.
- 2.6.2. Recognize different histological stains.
- 2.6.3. Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.
- 2.6.4. Retrieve, manage, and manipulate information by all means, including electronic means.
- 2.6.5. Present information clearly in written, electronic and oral forms.
- 2.6.6. Establish effective interpersonal relationship to Communicate ideas and arguments.

**3- Course contents:**

TOPIC	No of hours	lecture	Tutorial/practical
<b>IV-THE INTEGUMENTARY SYSTEM</b>  1-structure and function of the skin  2-histological structure &function of epidermis, dermis (papillary and reticular layer )  3-Different types of cells present in the epidermis (keratinocytes, melanocytes, langerhan's cells, Merkel's cells )  4-Types of skin and their sites :Thick Skin& Thin Skin.  5-pigmentation of skin 6-Immune response in skin 7-Sweat glands 8-Hair &hair follicles 9-Sebaceous glands and erector pili muscles 10-Sensory receptors of skin	4	2	2

<p>1- conducting portion of <b>V-THE RESPIRATORY SYSTEM</b></p> <p>respiratory system (histological structure and function ) nasal cavity, nasal conchae, olfactory area, paranasal sinuses, nasopharynx, pharyngeal tonsils, larynx, epiglottis, trachea, bronchial tree, bronchioles)</p> <p>2- respiratory portion respiratory (histological structure and function) bronchioles, alveolar ducts, alveolar sacs, alveoli ,interalveolar wall )</p> <p>3-structure of pleura</p> <p>4-structure of foetal lung</p>	<p>5</p>	<p>2</p>	<p>2</p>

5-Non respiratory function of lung 6-Bronchus associated lymphoid tissue			
<b>VI-THE DIGESTIVE SYSTEM</b>	12	6	6
1-Oral cavity(Lip, cheeks, Tongue) salivary glands(classification, typesof acini ,parotid ,sublingual& submandibular) palate and pharynx 2-Digestive tube : General features (structure and function of four layers ) 3-Oesophagus 4-Gastro-Oesophageal Junction 5-Stomach (cardiac ,Fundus , Pylorus ) 6-Gastroduodenal Junction 7-Small Intestine <b>8-Large Intestine</b> <b>9-Appendix</b> <b>10-rectum and anal Canal</b> <b>11-Pancreas</b> <b>12- Liver &amp;-Gall Bladder</b>			
<b>VII-THE URINARY SYSTEM</b>	4	2	2
1-Kidneys 2-The Ureter 3-Urinary Bladder 4-male urethra 5-female urethra			
<b>VIII- THE ENDOCRINE SYSTEM</b>	6	3	3
1-Pituitary Gland 2-Thyroid Gland			

3-Parathyroid Glands 4-Adrenal (Suprarenal) Glands 5- pineal body 6-islet's of pancreas 7-difuse neuroendocrine system			
<b>IX-THE MALE REPRODUCTIVE SYSTEM</b> 1-The Testis  2-Male genital ducts (histological structure &function)of tubuli recti, rete testis ,epididymis, Ductus Deferens ( Vas Deferens) & spermatic Cord  3-sccessory male genital tracts (histological structure &function) seminal vesicles ,Prostate. bulbourethral glands of Cowper  4-The Penis	6	3	3
<b>X- THE FEMALE REPRODUCTIVE SYSTEM</b> 1-Ovaries(histological structure &function)  2-The Uterine Tubes  3-The Uterus (histological structure &function) 4-cyclic changes of endometrium 5-cervix(histological structure &function) 6-Placenta  7-vagina(histological structure &function) 8-external genitalia 9- Mammary Glands (Resting & Lactating Mammary Gland )	6	3	3
<b>XI-THE EYE</b>  1-wall of the eye  2-external fibrous coat : histological structure	4	2	2

&function of( sclera, Cornea, corneoscleral junction) 3-middle vascular coat histological structure &function of (choroids,ciliary body ,iris ) 4- Retina ( inner nervous coat )histological structure &function. 5 refractive media of the eye , lens ((histological structure &function chambers of the eye 7-vitreous body 8-accessory structure of the eye (conjunctiva ,eye lid, lacrimal glands )			
<b>XII- THE EAR</b> 1-external ear ( Auricle ,external auditory meatus ,tympanic membrane) 2-middle ear (tympanic cavity, auditory ossicles, windows ,auditory tube ) 3-inner ear :Bony Labyrinth &membranous Labyrinth	4	2	2
<b>XIII-CNS</b> 1- Anatomical consideration of CNS 2- meninges 3- spinal cord 4- medulla oblongata 5- pons 6- mid brain 7- cerebellum	10	5	5



8- diencephalon 9- cerebral cortex			
Total	60	30	30

#### 4- Teaching and learning methods:

##### **METHODS USED:**

1. Lectures.
2. Small group discussions: demonstration (slides, photographs)& case study.
3. Tutorials
4. Practical classes

##### **TEACHING PLAN:**

Lectures: 60 lectures

Tutorials: 21 tutorials

Practical classes: 63 practical classes

Time plain:

Item	Time schedule	Teaching hours	Total hours
Lectures	<b>2</b> Times/week (each time <b>1</b> hour)	<b>60 hours</b>	<b>41.6%</b>
Practical classes	<b>63</b> Hours/ <b>7</b> week	<b>63 hours</b>	<b>43.7%</b>
Tutorials	<b>21</b> Hours/ <b>7</b> week	<b>21 hours</b>	<b>14.5%</b>

<b>Total</b>		<b>144 hours</b>	<b>100%</b>
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## 5- Students Assessment methods:

### 5-A) ATTENDANCE CRITERIA:

1. Practical attendance
2. Small group attendance
3. Log book

### 5-B) Assessment TOOLS:

<b>Tool</b>	<b>Purpose (ILOs)</b>
Written examination	To assess knowledge acquisition, including MCQs and problem solving
Oral examination	To assess understanding and stability of knowledge given, attitude and presentation.
Practical examination	To assess practical skills.

### 5-C) TIME SCHEDULE:

<b>Exam</b>	<b>Week</b>
1- Assessment 1	Week -----21
2- Assessment 2	Week -----60
3- Assessment 3	Week -----
4- Final exam	At end of year (week 30)

### 5-D) Weighting System:

<b>Examination</b>	<b>Marks allocated</b>	<b>% of Total Marks</b>
1- Mid-term exam	15	7.5%
2- End-term exam	25	12.5%
3- Final exam:		
a- Written	100	50%
b- Practical	30	15%
c- Oral	30	15%
4- Assignments & other activities	-----	-----

<b>Total</b>	<b>200</b>	100%
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**FORMATIVE ASSESSMENT:**

- Student knows his marks after the Formative exams.

**5-E) Examination description:**

Examination	Description
1- Mid-term exam	Quiz (MCQs)
2- End-term exam	MCQs and complete
3- Final exam: a- Written b- Practical c- Oral	e.g. select (MCQs) & Supply (Short essay) & cases e.g. Do, identify e.g. How many sessions
4- Assignments & other activities	e.g. Assignments, projects, practical books etc

**6- List of references:**6.1- Basic materials:

Department books:

- 1- Histology & Cell biology book.
- 2- Histology & Cell biology practical book.

6.2- Essential books (text books):

- 1- Junqueira Basic Histology.
2. Gartner & Hiatt Atlas Histology.

6.3- Recommended books:

1. Medical toxicology: Richard C dart
2. Emergency Toxicology: Peter viccellio.
3. Forensic pathology: Vincent J DiMaio

6.4- Periodicals, Web sites, etc:

- <http://www.medscape.com>.
- <http://www.pubmed.com>.
- <http://sciencedirect.com>.

**7- Facilities required for teaching and learning:**

Facilities used for teaching this course include:

- Faculty lectures halls: 3
- Department lectures halls: 3
- Department lab.

**Course coordinator: Prof Dr. Mohamed Magdy Zaky**

**Head of Department: Prof Dr. Mohamed Magdy Zaky**

**Date: 2009 – 2010.**

*TEMPLATE FOR COURSE REPORTS*

Benha University  
 Faculty of Medicine  
 Department of Histology & Cell Biology.....

Course Report  
Academic Year 2009 – 2010

**A- Basic Information:**

1- **Course title and code: Histology & cell Biology**

2- **\_2<sup>nd</sup> academic year of M.B. & B.Ch. Program**

3- **Allocated marks 150**

4- **No. of hours: 10 hours /week**

5- **Teaching staff:**

a- **Number of teaching staff categories**

Professors:

Prof. Dr. Mohamed Magdy Zaky

Prof. Dr. Eman EL Nashar

Assistant professors

Lecturers

Assistant lectures

Demonstrators.

b- **Student / staff / course Ratio (Academic year or round for clinical departments)**

6- **Course coordinator: Prof. Dr. Mohamed Magdy Zaky**

7- **External evaluator: Prof. Dr. Gamal Hagra**

**B- Statistical Information:**

Number of students starting the course	321
Number of students completing the course	320 (% of starting No.)
Number of fail students	9 (% 2.75)
Number of pass students	311 (% of completing)

Grades	Excellent	162(% 49.4)
	Very good	100 (% 30.48)
	Good	36 (% 10.97)
	Fair	13 (% 3.97)

### C- Professional Information:

#### 1- Course topics taught:

##### A) Lectures:

جدول محاضرات الفرقة الثانية للعام الجامعي ( 2010 / 2011 )

قسم الأنسجة وبيولوجيا الخلية

محاضرات الفرقة الثانية		اليوم والتاريخ
الموضوع	المحاضر	
Skin	د/لواظ	الأحد/19-9
		الثلاثاء/ 21-9
Skin	د/لواظ	الأربعاء/ 22-9
Skin	د/لواظ	الأحد/ 26-9
		الثلاثاء/ 28-9
Skin	د/لواظ	الأربعاء/ 29-9
Respiratory	د/اميمة	الأحد/3-10
		الثلاثاء/ 5-10
		الأربعاء/ 6-10
Respiratory	د/اميمة	الأحد/10-10
		الثلاثاء/ 12-10

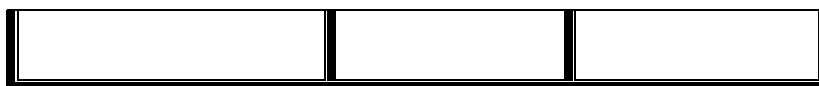
Respiratory	د/اميمة	الأربعاء / 10-13
Respiratory	د/اميمة	الأحد / 10-17
		الثلاثاء / 10-19
Respiratory	د/اميمة	الأربعاء / 10-20
GIT	د/سالى	الأحد / 10-24
		الثلاثاء / 10-26
GIT	د/سالى	الأربعاء / 10-27
GIT	د/سالى	الأحد / 10-31
		الثلاثاء / 11-2
GIT	د/سالى	الأربعاء / 11-3
GIT	د/سالى	الأحد / 11-7
		الثلاثاء / 11-9
GIT	د/سالى	الأربعاء / 11-10
GIT	د/سالى	الأحد / 11-14

محاضرات الفرقة الثانية		اليوم والتاريخ
الموضوع	المحاضر	
GIT	د/سالى	الأحد / 11-21
		الثلاثاء / 11-23
GIT	د/سالى	الأربعاء / 11-24
GIT	د/سالى	الأحد / 11-28
		الثلاثاء / 11-30

GIT	د/سالى	الأربعاء / 12-1
GIT	د/سالى	الأحد / 12-5
<b>الثلاثاء / 12-7</b>		
Endocrine	د/أسماء	الأربعاء / 12-8
Endocrine	د/أسماء	الأحد / 12-12
<b>الثلاثاء / 12-14</b>		
Endocrine	د/أسماء	الأربعاء / 12-15
Endocrine	د/أسماء	الأحد / 12-19
<b>الثلاثاء / 12-21</b>		
Endocrine	د/أسماء	الأربعاء / 12-22
Endocrine	د/أسماء	الأحد / 12-26
<b>الثلاثاء / 12-28</b>		
Renal	د/هلبيس	الأربعاء / 12-29
Renal	د/هلبيس	الأحد / 1-2
<b>الثلاثاء / 1-4</b>		
Renal	د/هلبيس	الأربعاء / 1-5
Renal	د/هلبيس	الأحد / 1-9
<b>الثلاثاء / 1-11</b>		
Male	د/شريفة	الأربعاء / 1-12
Male	د/شريفة	الأحد / 1-16



محاضرات الفرقة الثانية		اليوم والتاريخ
الموضوع	المحاضر	
		الثلاثاء/ 4-5
Ear	د/محمد يوسف	الأربعاء/4-6
CNS	د/سالى	الأحد/ 4-10
		الثلاثاء/ 4-12
CNS	د/سالى	الأربعاء/4-13
CNS	د/سالى	الأحد/ 4-17
		الثلاثاء/ 4-19
CNS	د/سالى	الأربعاء/4-20
CNS	د/أسماء	الأحد/ 4-24
		الثلاثاء/ 4-26
CNS	د/أسماء	الأربعاء/4-27
		الأحد/ 5-1
		الثلاثاء/ 5-3
CNS	د/أسماء	الأربعاء/5-4
CNS	د/حمدي	الأحد/ 5-8
		الثلاثاء/ 5-10
CNS	د/حمدي	الأربعاء/5-11
CNS	د/حمدي	الأحد/ 5-15
		الثلاثاء/ 5-17



رئيس القسم

أعضاء هيئة التدريس بالقسم

- Percent of specified topics actually covered (> 90% Specified topics that were not taught and justification (Reasons in details):  
-none
- Taught topics other than those specified & justification (Reasons in details):  
none-

B) Practical:

TOPIC	No of hours	lecture	Tutorial/practical
<b>IV-THE INTEGUMENTARY SYSTEM</b>  1-structure and function of the skin  2-histological structure &function of epidermis, dermis (papillary and reticular layer )  3-Different types of cells present in the epidermis (keratinocytes, melanocytes, langerhan's cells, Merkel's cells )  4-Types of skin and their sites :Thick Skin& Thin Skin.  5-pigmentation of skin 6-Immune response in skin 7-Sweat glands 8-Hair &hair follicles 9-Sebaceous glands and erector pili muscles 10-Sensory receptors of skin	4	2	2

<p>1- conducting portion of <b>V-THE RESPIRATORY SYSTEM</b></p> <p>respiratory system (histological structure and function ) nasal cavity, nasal conchae, olfactory area, paranasal sinuses, nasopharynx, pharyngeal tonsils, larynx, epiglottis, trachea, bronchial tree, bronchioles)</p> <p>2- respiratory portion respiratory (histological structure and function) bronchioles, alveolar ducts, alveolar sacs, alveoli ,interalveolar wall )</p> <p>3-structure of pleura</p> <p>4-structure of foetal lung</p>	<p>5</p>	<p>2</p>	<p>2</p>

5-Non respiratory function of lung 6-Bronchus associated lymphoid tissue			
<b>VI-THE DIGESTIVE SYSTEM</b>	14	7	7
1-Oral cavity(Lip, cheeks, Tongue) salivary glands(classification, typesof acini ,parotid ,sublingual& submandibular) palate and pharynx 2-Digestive tube : General features (structure and function of four layers ) 3-Oesophagus 4-Gastro-Oesophageal Junction 5-Stomach (cardiac ,Fundus , Pylorus ) 6-Gastroduodenal Junction 7-Small Intestine <b>8-Large Intestine</b> <b>9-Appendix</b> <b>10-rectum and anal Canal</b> <b>11-Pancreas</b> <b>12- Liver &amp;-Gall Bladder</b>			
<b>VII-THE URINARY SYSTEM</b>	4	2	2
1-Kidneys 2-The Ureter 3-Urinary Bladder 4-male urethra 5-female urethra			
<b>VIII- THE ENDOCRINE SYSTEM</b>	6	3	3
1-Pituitary Gland 2-Thyroid Gland			

3-Parathyroid Glands 4-Adrenal (Suprarenal) Glands 5- pineal body 6-islet's of pancreas 7-difuse neuroendocrine system			
<b>IX-THE MALE REPRODUCTIVE SYSTEM</b> 1-The Testis  2-Male genital ducts (histological structure &function)of tubuli recti, rete testis ,epididymis, Ductus Deferens ( Vas Deferens) & spermatic Cord  3-sccessory male genital tracts (histological structure &function) seminal vesicles ,Prostate. bulbourethral glands of Cowper  4-The Penis	6	3	3
<b>X- THE FEMALE REPRODUCTIVE SYSTEM</b> 1-Ovaries(histological structure &function)  2-The Uterine Tubes  3-The Uterus (histological structure &function) 4-cyclic changes of endometrium 5-cervix(histological structure &function) 6-Placenta  7-vagina(histological structure &function) 8-external genitalia 9- Mammary Glands (Resting & Lactating Mammary Gland )	6	3	3
<b>XI-THE EYE</b>  1-wall of the eye  2-external fibrous coat : histological structure	4	2	2

&function of( sclera, Cornea, corneoscleral junction) 3-middle vascular coat histological structure &function of (choroids,ciliary body ,iris ) 4- Retina ( inner nervous coat )histological structure &function. 5 refractive media of the eye , lens ((histological structure &function chambers of the eye 7-vitreous body 8-accessory structure of the eye (conjunctiva ,eye lid, lacrimal glands )			
<b>XII- THE EAR</b> 1-external ear ( Auricle ,external auditory meatus ,tympanic membrane) 2-middle ear (tympanic cavity, auditory ossicles, windows ,auditory tube ) 3-inner ear :Bony Labyrinth &membranous Labyrinth	4	2	2
<b>XIII-CNS</b> 10- Anatomical consideration of CNS 11- meninges 12- spinal cord 13- medulla oblongata 14- pons 15- mid brain 16- cerebellum	10	5	5

17- diencephalon 18- cerebral cortex			
Total	60	30	30

- Percent of specified topics actually covered (> 90% Specified topics that were not taught and justification (Reasons in details):  
none-
- Taught topics other than those specified & justification (Reasons in details):  
none-

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- Specified topics that were not taught and justification (Reasons in details):  
-none
- Taught topics other than those specified & justification (Reasons in details):  
-none

## 2- Teaching and learning methods:

Method specified	Applied or not	Comments
1- lectures	applied	
2- Practical	applied	
3- Tutorials	applied	
4- etc	not	

- Methods that were not used and justify:  
-
- Methods used other than those specified and justify:  
-

## 3- Student assessment:

### a- Methods of assessment

Method specified	Total Marks (% of Total Marks)	
	Specified	Actual
1- Written examination	75	75
2- Oral examination	15	15
3- Practical	30	30
4- etc	30	30
Total	150	150

- Justify any deviation from specified

- b- State the rules applied for the selection of the examination committee.  
State the names of the members of the examination committee.
- c- State the involvement of the external evaluator in:
- The match between the examination and the topics taught.
  - The existence of grading criteria in examination sheets
  - The allocation and distribution of marks and weighting
  - Effectiveness of the overall assessments in measuring the achievement of the intended learning outcomes (ILOs).

#### 4- Facilities and teaching materials:

Facilities & Teaching Materials	Totally Adequate	Partially Adequate	Inadequate	Impact on Delivery of the course Or achieving ILOs
1- Lecture halls		//		
2- A-V aids		//		
3- Laboratories		//		
4- Equipments		//		
5- Specimens		//		
6- Library	//			
7- etc				

Identify inadequacies, together with any problems in the delivery of the course or achieving the ILOs.

#### 5- Administration constraints:

State any administrative constraints related to teaching and learning e.g. lack of:

- Some facilities or funds
- Teaching aids
- Site visits
- Qualified personnel for laboratory and administration
- Management problems or regulations, which impeded the delivery of the course and the achievement of the ILOs.

#### 6- Results of course evaluation by students:

- Method used e.g. Questionnaires, interviews, focus group etc.
- State the main points e.g. teaching, facilities, assessments.....
- Achievement of Course's ILOs.
- Response to any criticisms by the faculty members delivering the course, together with their proposals for dealing with those issues.

#### 7- External evaluator's comments:

- State the issues raised by the external evaluator
- Responses from the faculty members delivering the course, together with their proposals for dealing with those issues.



**Course Coordinator:**

**Signature**

**Date:        /        / 200**