



**Suez Canal University  
Faculty of Medicine**

## ***Program Specification***

*Program Title:*

***Doctorate Degree of Histology and  
Cell biology***

*Code:*

***HTHT***



**Suez Canal University  
Faculty of Medicine**

### **Program Specifications:**

**Program Title:** Doctorate degree of Histology and cell biology.

**Department offering the Program:** Histology and cell biology.

**Academic level:** Post Graduate Studies.

**Date of specification approval:** The bylaws of the Doctorate program in Histology and cell biology in the Faculty of Medicine, Suez Canal University were approved by the Supreme Council of Universities in 2016.

**Date of specification revision approval:** Jan 2017.

**External Evaluator:** Prof Dr/ Maher Imara

**Prof Dr / Aisha Abd Elmonem**

**Prof Dr / Hassan Sabry Ali**

**Prof Dr / Soher Fawzy**

**Credit points: 180 CP**

### **B- Professional Information**

#### **1. Program Aims:**

The program aims to:

- Provide students with advanced knowledge and skills in the subject of histology & cell biology
- Enable students to use a wide range of transferable skills including managerial, teaching, , report writing, and computing & information technology skills
- Provide students with the competencies required to design experiments, analyze data, and review literature critically
- Provide students with the lifelong learning skills needed for their postgraduate study and professional careers

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

##### **a) Knowledge and Understanding:**

*The candidates should be able to:*

- a1 Describe the detailed structure of the cell including the molecular structure, cell cycle and cell division
- a2 Describe epithelial tissue and connective tissue (LM&EM).
- a3 Describe the detailed microscopic structure of cartilage, bone and muscle.



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- a4 Describe the detailed microscopic structure of various elements constituting the blood, detailed process of haematopoiesis and blood vessels.
- a5 Describe the detailed microscopic structure of the lymphatic tissue (thymus, lymph node, spleen & tonsil) and skin
- a6 Describe the detailed microscopic structure of the respiratory system, GIT & urinary system
- a7 Describe the detailed microscopic structure of the female & male reproductive system.
- a8 Describe the detailed microscopic structure of the endocrine system, eye & ear.
- a9 Describe the detailed structure of the spinal cord at its different levels and brain stem.
- a10 Describe the detailed microscopic structure of the nervous tissue, cerebral cortex and cerebellum.
- a11 Recognize the basis and principles of quality related to instrumentation in histology lab.
- a12 Mention ethical issues relevant to histology practice including dealing with animals
- a13 Demonstrate advanced knowledge of biostatistics.

**b) Intellectual Skills:**

- b1. Relate the structure of the different cell components to their functions.
- b2. Compare the microscopic structure of different types of cartilage (hyaline cartilage, elastic cartilage and white-fibrocartilage).
- b3. Differentiate between microscopic structure of cancellous and compact bone.
- b4. Explain the mechanism of skeletal muscle contraction & relaxation.
- b5. Differentiate between the microscopic structure of cranio-somatic ganglion & autonomic ganglion.
- b6. Compare the structures of the different types of blood vessels.
- b7. Differentiate the detailed microscopic structure of thick and thin skin.
- b8. Relate the microscopic structure of all the studied tissues and organs to their functions.
- b9. Put a plan for self development
- b10. Apply problem solving and critical thinking skills.
- b11. Apply principles of advanced research skills



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- b12. Apply principles of biostatistics.
- b13. Apply concepts of research ethics including dealing with animals
- b14. Plan to improve performance related to histology
- b15. Assess Risk in professional practices
- b16. Conduct research studies and write a scientific review on a research problem

**Professional and Practical Skills:**

- c1. Identify & draw normal histological sections in different tissues and organs.
- c2. Prepare histological sections (frozen & paraffin) .
- c3. Perform histochemical & immunohistochemical techniques.
- c4. Deal with instruments as, microtome, cryostat & image analyzer.
- c5. Use technology to serve professional practice
- c6. Perform and evaluate diagnostic procedures considered essential in the field of histology

**c) General and Transferable Skills:**

- d1. Demonstrate managerial skills.
- d2. Use different resources and present information clearly in written, electronic and oral forms.
- d3. Work within a changing environment.
- d4. Teach effectively and act as a mentor to others.
- d5. Work effectively within a team as a member or a leader.
- d6. Demonstrate efficient Information and Communication Technology skills.
- d7. Self evaluation and lifelong learning
- d8. Patron scientific meetings and manage time effectively

**Academic Standards:**

**External References for Standards (Benchmarks)**

The generic Academic Reference Standards (ARS) of NAQAAE for Postgraduate (2009)  
[<http://naqaae.org/main/php/book/index.php>]

**Curriculum Structure and Contents:**

The program consists of **First part 30 CP, Thesis 50 CP, and Second part 100 CP**



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1. **The first part of the program:** 30 CP, its duration (15 weeks) for one academic semester. The first part comprises the following:
  - a. A course in Statistics & Research Methodology is planned and held in the Community Medicine Department of the Faculty of Medicine, Suez Canal University. This part includes 8 CP.
  - b. Two electives each one has 2 CP. The students should select one elective which has not been selected in the MD Degree.
  - c. The specialized courses in histology, planned and held in the Histology Department. It includes 18 CP.
- 2- **MD thesis:** 50 CP, no scores for thesis. The candidate has the right to register his/her thesis protocol after 6 months from the degree registration. The first time for thesis defense after 6 months from the date of the faculty council approval on the thesis protocol and passing the first part exam.

**5. Program Courses:**

**5.1- Level/Year of Program: 1st part MD**

**a. Compulsory**

Courses			Assessment				
Code No.	Course Title	No. of Credit points	Written Exam			Oral exam	Practical or clinical Exam
			No of Papers	Duration	Marks		
<b>BR</b>	Research methodology and Biostatistics	8	1	3 hours	<b>160</b>		
<b>HTHT51</b>	Course in histology	18	1	3 hours	<b>270</b>	<b>90</b>	
<b>E</b>	Two Elective courses*	2+2	1+1	1 hour for each	<b>40+40</b>		
<b>Total</b>		<b>30 credit points</b>			<b>600 marks**</b>		



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\*E: Student should select one course of the following as an elective course: One elective course has 2 CP.

\*\*Every credit point equal 20 marks

**b. Elective**

<b>E01</b>	<b>Evidence Based medicine</b>	<b>(Community Department)</b>
<b>E02</b>	<b>Scientific Writing</b>	<b>(Medical Education Department)</b>
<b>E03</b>	<b>Quality in Medical Education</b>	<b>(Medical Education Department)</b>
<b>E04</b>	<b>Infection Control</b>	<b>(Microbiology Department)</b>
<b>E05</b>	<b>Critical Appraisal</b>	<b>(Community Department)</b>
<b>E06</b>	<b>Communication Skills</b>	<b>(Medical Education Department)</b>

**5.2- Level/Year of Program: 2nd part MD (Compulsory)**

Courses			Assessment					
Code No.	Course Title	No. of Credit points	Written Exam			Oral exam	Practical or clinical Exam	Continues assessment *(Portfolio)
			No of papers	Durations	Marks			
<b>HTHT52</b>	Scientific and theoretical Course in Histology	60	2	3 hours For each paper	360 for each paper	180	360	540
	Practical training in Advances of Histology	30						
	***Scientific activities	10 (not included in the total marks)						
<b>Total</b>		<b>100 credit points</b>				<b>1800**marks</b>		

\*Portfolio scores distributed in the different parts of the portfolio and its total score included among the total mark of the second part

\*\*Every credit point equal 20 marks

\*\*\*Scientific activities are not included in the total marks

**5.3- Thesis:** Senior & junior faculty members from the department staff are nominated by the department council to supervise a candidate thesis work. The supervisors help the candidate in preparing the proposal of the thesis after the selection of a topic that match the research plans of the department, college & University. Data



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collection, methodologies, study question, time table, ethical considerations and budget are formulated by the candidate under guidance of his supervisors. The research protocol is discussed in one of the department councils to be approved and diverted to the Faculty research committee where it is subjected to a critical appraisal to meet the research basic standards set by the committee. The final approval of the research protocol is then issued by the committee of post graduate studies, the Faculty and University Council to be registered. The candidate has the right to register his/her thesis protocol after 6 months from the degree registration. The first time for thesis defense after 6 months from the date of the faculty council approval on the thesis protocol and passing the first part exam.

### **6. Program Admission Requirements:**

- The program accepts candidates with Bachelor degree in Medicine and Surgery with good grade in the **Histology and cell biology** Master degree
- Registration for the program opens two times/year, according to the internal bylaws for postgraduate studies of the Faculty of Medicine, Suez Canal University.

### **7. Student Assessment Methods**

- |                      |   |
|----------------------|---|
| <b>7.1 Written</b>   | to assess the cognitive domain.                                 |
| <b>7.3 Oral</b>      | to assess higher cognitive and attitude domains .               |
| <b>7.3 Practical</b> | to assess practical skills.                                     |
| <b>7.4 Portfolio</b> | to assess the cognitive, psychomotor and the affective domains. |

### **8. Weighting of Assessments**

#### **First part (30 CP = 600 mark)**

- |                |           |
|----------------|-----------|
| - Written exam | 510 marks |
| - Oral exam    | 90 marks  |
| - Total        | 600 marks |

#### **Second part ( 100CP including 10 CP not included in the total marks==1800)**

- |                  |           |
|------------------|-----------|
| - Written exam   | 720 marks |
| - Oral exam      | 180 marks |
| - Practical exam | 360 marks |



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- Portfolio 540 marks
- Total 1800 marks

**Total of the MD degree 2400**

**9. Regulations for Progression and Program Completion:**

The regulations for program completion follow the regulations of Dotorate degree of Histology and cell biology in the Faculty of Medicine, Suez Canal University approved by the Supreme Council of Universities.

**First part**

- Passing level 60% of total marks of the exam
- At least 50% passing level of the total written exam marks

**Second part**

- Passing level 60% of total marks of the exam

**Thesis**

- Passing the thesis defense is a prerequisite for getting MD. Degree.

**10. Evaluation of Program Intended Learning Outcomes (ILOs)**

Evaluator	Tool	Sample
1- Postgraduate students	Needs assessment questionnaires	Random sample of participants
2- Alumni	Self-administered questionnaires	Comprehensive sample
3-External Evaluator(s) (External Examiner(s))	External audit of the program specifications	
4- Other		

**11. List of References:**

11.1- Essential books:

- Luiz C. Junqueira & Jose Carneiro (2016)  
Basic Histology: Text and Atlas.
- Leslie P. Gartner & James L. Hiatt (2014)  
Color Textbook of Histology.
- Don W. Fawcett (1994)  
Bloom and Fawcett: A Textbook of Histology





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- Malcolm B. Carpenter (1991)

Core text of Neuroanatomy

11.2- Recommended books:

- Geoffrey M. Cooper (2000)

The Cell: A Molecular Approach

11.3- Web sites:

<http://www.siumed.edu/~dking2/>

[http://www.meddean.luc.edu/LUMEN/MedEd/Histo/frames/histo\\_frames.html](http://www.meddean.luc.edu/LUMEN/MedEd/Histo/frames/histo_frames.html)

<http://www.lab.anhb.uwa.edu.au/mb140/>

**12. Facilities Required for Teaching and Learning:**

- Library - Histological slides - PC - Data show - CDs - Internet

**Head of Department:** Prof. Lamiaa Mohammed Farghaly

**Date:**