



Suez Canal University
Faculty of Medicine

Programme Specification

Programme Title:

***Master Degree of Histology and Cell
biology***

Code:

HTHT



**Suez Canal University
Faculty of Medicine**

Programme Specifications:

Program Title: Master Degree of Histology and cell biology.

Program Type: Single ✓ Double Multiple

Department(s): Department of Histology & Cell Biology

Coordinator: Prof. Somaya Hosny

External Evaluator(s): Prof Dr/ Maher Imara

Prof Dr / Aisha Abd Elmonem

Prof Dr / Hassan Sabry Ali

Prof Dr / Soher Fawzy

Last date of program specifications approval: The bylaws of the Master program in Histology and cell biology in the Faculty of Medicine, Suez Canal University were approved by the Supreme Council of Universities in 2016. Program spec. were approved November 2017

Date of specification revision approval: 2022

Number of credit points (CP) for this degree: 120 CP

Professional Information

1. Program Aims:

The program aims to:

- Provide students with knowledge and skills in the subject of histology & cell biology that enable them to:
 - a) Describe the detailed molecular structure of the cell & the detailed normal histological structure of different tissues and organ systems.
 - b) Perform wide-range of histological techniques as well as dealing with different histological tools and instruments.
 - c) Apply a range of skills to conduct effective histological research.
- Enable students to use transferable skills in oral presentations, report writing, and the use of information technology
- Provide students with adequate knowledge and skills in research methodology that enable them to design experiments, analyze data, and review literature critically



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- Provide students with the knowledge and skills necessary for their professional careers or for postgraduate study

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

a) **Knowledge and Understanding:**

The candidates should be able to:

- a1. Describe the detailed structure of the cell, phases of cell cycle and stages of mitosis & meiosis
- a2. Classify and describe the microscopic structure of different types of epithelium and their specializations
- a3. Describe in detail all about the histology of different body tissues including epithelial, connective, muscular and nervous tissues.
- a4. Describe the microscopic structure of cartilage and bone.
- a5. Describe the microscopic structure of various elements constituting the blood, the process of haematopoiesis and the structure of blood vessels.
- a6. Describe the microscopic structure of the thymus, lymph node, spleen, tonsil and the different types of skin.
- a7. Describe the microscopic structure of the respiratory, gastrointestinal and urinary systems
- a8. Describe the microscopic structure of the parts constituting the male reproductive and the female reproductive systems.
- a9. Describe the microscopic structure of the endocrine system, the eye and ear.
- a10. Describe the structure of the spinal cord at its different levels, the pathway of all the sensory and motor tracts, structure of the brain stem, cerebral cortex and cerebellum.
- a11. Describe the pathology of different diseases relevant to different tissue organs.
- a12. Describe the basics and updates of genetics
- a13. Recognize the basis and principles of quality related to instrumentation in Histology lab.

b) **Intellectual Skills:**

- b1. Relate the structure of the different cell components to their functions.
- b2. Differentiate between the microscopic structures of different types of cartilage and bone.
- b3. Explain the mechanism of skeletal muscle contraction & relaxation.



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- b4. Differentiate between the microscopic structure of cranio-somatic ganglion & autonomic ganglion.
- b5. Compare between the structures of the different types of blood vessels.
- b6. Differentiate between the microscopic structure of thick and thin skin.
- b7. Relate the microscopic structure of all the studied tissues and organs to their functions.
- b8. Put a plan for self development
- b9. Apply problem solving and critical thinking skills.
- b10. Apply principles of research skills
- b11. Apply principles of biostatistics.
- b12. Apply concepts of research ethics including dealing with animals

c- Professional and Practical Skills:

- c.1 Identify & draw normal histological sections in different tissues and organs.
- c.2 Prepare histological sections (frozen & paraffin) and stain them with routine H&E stain and different special histological stains.
- c.3 Perform histochemical & immunohistochemical techniques.
- c.4 Deal with instruments as balance, pH meter, microtome, cryostat & image analyzer.
- c.5 Assess risks associated with using hazardous materials used in experimental work

c) General and Transferable Skills:

- d1. Demonstrate managerial skills.
- d2. Demonstrate presentation skills.
- d3. Perform evaluation for self, peers and programme.
- d4. Present information clearly in written, electronic and oral forms.
- d5. Communicate ideas and arguments effectively.
- d6. Manage time and resources and set priorities.
- d7. Apply the principles of scientific research.
- d8. Work within a changing environment.
- d9. Teach effectively and act as a mentor to others.
- d10. Work effectively within a team as a member or a leader.
- d11. Use computers efficiently.
- d12. Demonstrate efficient Information and Communication Technology skills.
- d13. Use the medical library and electronically mediated resources.
- d14. Adopt the principles of self and lifelong learning

3- Academic Standards

3a External References for Standards (Benchmarks)



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The generic Academic Reference Standards (ARS) of NAQAAE for Postgraduate (2009)

3b Comparison of Provision to External References

See attached document

4- Curriculum Structure and Contents

4a- Program duration: the program lasts for a minimum of 2 academic years and maximum 5 years, as specified in the internal bylaws for postgraduate studies based on credit points system in the Faculty of Medicine, Suez Canal University approved on February 7th, 2016.

4b- Program structure:

Master Program Credit points (CP) structure:

Total needed credit points for getting master degree 120 CP

The program consists of **First part 30 CP, Thesis 30 CP, and Second part 60 CP**

The first part of the program: 30 CP, its duration 15 weeks for one academic semester. It includes

- A course in Research Methodology planned and held in the Community Medicine Department of the Faculty of Medicine, Suez Canal University(4 CP).
- A course in Research ethics planned and held in the Forensic and Toxicology Department of the Faculty of Medicine, Suez Canal University(2 CP).
- One elective course, the students should select one elective among six courses (2CP)
- The specialized course in pathology planned and held in the pathology Department (9CP)
- The specialized course in genetics planned and held in the Histology Department, genetics unit (13CP).

Master thesis: 30 CP, not included in the total marks for master degree, the candidate has the right to register the thesis protocol after 6 months from the



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degree registration. The thesis defense is allowed after 6 months from the date of Faculty council approval on the thesis protocol and after passing the first part exam.

The second part of the program: 60 CP, its duration 45 weeks for 3 consecutive academic semesters. The second part comprises the specialized courses in Histology and cell biology, planned and held in the Histology Department. This part lasts for 1.5 years ending by written and practical exams.

4bi- No. of hours per week: 2 CP / week which equivalent 50 hours/ week, including lectures, tutorials, self-learning and hands-on training.

4bii- No. of credit Points: the Master program is 120 Credit Points

Every credit point include 25 working hour (30% = 7 hours for face to face learning activities, and 70% =18 hours for self-learning activities).

5-Program Courses

5.1- Level/Year of Program: 1st part MSc

a. Compulsory



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*E: Student should select one course of the following as an elective

Courses			Assessment				
Code No.	Course Title	No. of Credit points	Written Exam			Oral exam	Practical or clinical Exam
			No of Papers	Durati on	Marks		
RB	Research methodology and Biostatistics	4	1	2 hours	80		
RE	Research Ethics	2	1	1 hour	40		
HTHT01	Pathology	9	1	3 hours	135	45	
HTHT 02	Genetics	13	1	3 hours	195	65	
E	Elective Course*	2	1	1 hour	40		
Total		30 credit points			600 marks**		

course: One elective course has 2 CP. The students should select one elective in first part of the Master degree.

**Every credit point equal 20 marks

b. Elective

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

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



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Courses			Assessment					
Code No.	Course Title	No. of Credit points	Written Exam			Oral exam	Practical or clinical Exam	Continues assessment *(Portfolio)
			No of papers	Duration	Marks			
HTHT03	Advanced Course in Histology	30	2	3 hours For each paper	165 for each paper	110	330	330
	Practical Histology	25						
	***Scientific activities	5 (not included in the total marks)						
Total		60 credit points			** 1100 scores			

*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 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,



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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- Programme Admission Requirements

- Bachelor of Medicine & surgery with minimum good grade
- Registration for the program opens 2 times/year, according to the internal bylaws for postgraduate studies of the Faculty of Medicine, Suez Canal University.

7- Student Assessment Methods

- 7.1 Written (MEQ) to assess the cognitive domain.
- 7.2 MCQs to assess the cognitive domain
- 7.3 Oral Viva Cards to assess higher cognitive and attitude domains.
- 7.4 Observations to assess practical and presentation skills.
- 7.5 Portfolio to assess the cognitive, psychomotor and the affective domains.

7. Weighting of Assessments

Type of exam	
First part (30 credit points= 600 marks)	
• Written exam	490
• Oral exam	110
• <u>Total</u>	600
Second part (60 credit points including 5 credit points not included in the total marks =1100 marks)	
• Oral exam	110
• Practical exam	330
• Written exam	330
• Portfolio	330
• <u>Total</u>	1100



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Total of the Master degree

1700

9- Regulations for Progression and Programme Completion

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

Passing level 60% is prerequisite for MSC degree

Thesis/Assay

Passing thesis defense is prerequisite for getting MSc. 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:

- **Leslie P. Gartner & James L. Hiatt (2014)**

Color Textbook of Histology.

- **Don W. Fawcett (1994)**

Bloom and Fawcett: A Textbook of Histology

-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.lab.anhb.uwa.edu.au/mb140/>

Head of Department: Prof. Lamiaa Mohammed Farghaly

Date: