Medical Doctorate (M.D.) Degree Program and Courses Specifications for Histology

(According to currently applied Credit point bylaws)

Histology and cell biology department

Faculty of medicine

Assiut University

2021-2022/2022-2023

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M. D. degree of Histology

A. Basic Information

- **Program Title: MD degree in histology**
- **Nature of the program: Single.**
- **Responsible Department: Histology & Cell Biology**
- **Program Academic Director :**
  Prof Dr Nashwa Ahmed Mohamed Mostafa

  Coordinator (s):
  - **Principle coordinator: Prof. Dr. Amel Marzouk**
  - **Assistant coordinators: Prof. Dr. Sohair Eltony**
    Dr. Raghda Elsherif
- **Internal evaluators: Prof Dr. Sanna Elgayar**
- **External evaluator: Prof Dr. Safenaz Elhabashy**
  Prof. Dr. Maher Omara
- **Date of Approval by the Faculty of Medicine Council of Assiut University: 23/9/2014**
- **Date of most recent approval of program specification by the Faculty of Medicine Council of Assiut University: 27/11/2022**
- **Total number of courses: 5 courses+2 elective courses**

B. Professional Information

1- Program aims

1/I. Acquire excellent level of medical knowledge in the basic histological structure of the body organs and of the molecular and cellular mechanisms.

1/2. Have continuous ability to add knowledge to the histology through research and publication.

1/3. Enable students to proficiently function as teacher in relation to colleagues, medical students and other health professions.

1/4. To update candidates in area of immunohistochemistry enabling them making appropriate referrals to a sub-specialist in the research point.

1/5. Ensure acquisition of life-long learning for scientific work that is essential for continuing professional development.

2-Intended learning outcomes (ILOs)
for the whole program:

2/1Knowledge and understanding:

A. Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical clinical epidemiological and socio behavioral science relevant to pathology as well as the evidence –based application of this knowledge to practice including patient care.

B. Explain basics, methodology, tools and ethics of scientific medical, clinical research.

C. Mention ethical, medico logical principles and bylaws relevant to his practice in the field of Histology.

D. Mention principles and measurements of quality assurance and quality improvement in medical education and in practice of the concerned Histology.

E. Mention public health and health policy issues relevant to this specialty and principles and methods of system –based improvement of related to his practice in the field of Histology.

2/2 Intellectual outcomes

A. Apply the basic supportive sciences which are appropriate to the Histology related topics.

B. Demonstrate an investigatory and analytic thinking “problem – solving “approaches to relevant situations related to Histology

C. Plan research projects.

D. Write scientific paper.

E. Participate in laboratory risk management activities as a part of Histology practice.

F. Plan for quality improvement in the field of medical education and practice in Histology.

G. Create / innovate plans, systems, and other issues for improvement of performance in Histology practice.

H. Present and defend his / her data in front of a panel of exp

I. Formulate management plans and alternative decisions in different situations in the field of the Histology.

2/3 Skills

2/3/1 Practical skills

A. Master practical skills relevant to histology for all common techniques and /or experiments related to Histology.

B. Master practical skills with non-routine, laboratory skills and techniques and under increasingly difficult circumstances, while demonstrating, appropriate and effective competency.

C. Master proficiency in performing available complex laboratory techniques and handling unexpected complications.
D. Gather essential and accurate information about practical/laboratory skills related to Histology.
E. Make informed decisions about diagnostic laboratory tests for the Histology related conditions.
F. Develop and carry out diagnostic and teaching plans for all Histology related conditions / skills.
G. Use information technology to support practical decisions and students education in Histology related practical situations.
H. Provide health care or any relevant services aimed at preventing Histology related health problems.
I. Lead other professionals, including those from other disciplines, to provide practical/laboratory-focused care in Histology related conditions.
J. Write competently all forms of professional reports related to the Histology (lab reports, experiments reports,) including reports evaluating these charts and sheets.

2/3/2 General skills

Including:

- Practice-based Learning and Improvement
- Interpersonal and Communication Skills
- Professionalism

- Systems-based Practice

Practice-Based Learning and Improvement

A. Demonstrate the competency of continuous evaluation of different types of practice related to Histology.
B. Appraise scientific evidence.
C. Continuously improve his practice including coordination of laboratory practice with colleagues at Histology Department.
D. Participate in medical audits and research projects.
E. Practice skills of evidence-based Medicine (EBM).
F. Educate and evaluate students.
G. Design guidelines and standard protocols for different techniques and procedures.
H. Apply knowledge of study designs and statistical methods to the appraisal of histology related studies.
I. Apply basic information about methodology in research field.
J. Use information technology to manage information, access on- line medical information; for the important topics.

Interpersonal and Communication Skills

K- Master interpersonal and communication skills that result in the effective exchange of information and collaboration with other professionals, including:-

- Present a seminar.
- Write a research paper.

- Teamwork skills.

L. Create and sustain an ethically sound relationship others.

M. Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.

N. Work effectively with others as a member or leader of a health care team or other professional group.

Professionalism

O. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of students and society.

P. Demonstrate a commitment to ethical principles including provision or withholding of animal care in research purpose.

Q. Demonstrate sensitivity and responsiveness to others' culture, age, gender, and disabilities.

Systems-Based Practice

R. Work effectively in medical teaching delivery settings and systems relevant to Histology .

S. Practice cost-effective services provision and resource allocation that does not compromise quality.

T. Advocate for quality student care and assist students in dealing with system complexities.

U. Design, monitor and evaluate specification of under and post graduate courses and programs.

V. Act as a chair man for scientific meetings including time management

3- Program Academic Reference Standards (ARS) (Annex 2)

Academic standards for Medical Doctorate (MD) degree in Histology

Assiut Faculty of Medicine developed MD degree programs' academic standards for different academic specialties.

In preparing these standards, the General Academic Reference Standards for post graduate programs (GARS) were adopted. These standards set out the graduate attributes and academic characteristics that are expected to be achieved by the end of the program.

These standards were approved by the faculty council on 3/2010. These standards were revised and approved without changes by the Faculty Council on 23-9-2014. These standards were recently revised and reapproved without changes by the Faculty Council on 27-11-2022

4- Program External References(Benchmarks)

1. **ACGME (Accreditation Council for Graduate Medical Education).** **http://www.acgme.org/acWebsite/navPages/nav_Public.asp**
2. **Student Handbook (for Course approved by Senate of Imperial College),London: University of London, Imperial College…(MD in Clinical Cytology)**

http//:www.pubmed.com

- **Comparison of provision to selected external references**.

- Matching goals, duration and ILOs
- Different program structure time table

- Absence of strong link is observed between Histopathology and Clinical Cytology.
- The system abroad provides extensive training and skills for a career in human genetics thus facilitate the conversion of graduates from other relevant disciplines to human molecular genetics which is now considered one of the modern medicine because this science may shed light on the underlying molecular pathology of many diseases that are poorly understood at present,.
- Absence of subspecialty programs.

5- Program Structure

A. Duration of program: 4-6 years

B. Structure of the program:

Total number of credit points: = 420 CP
Master degree: 180 credit point
Didactic #: 35 (29.2%), practical 85 (70.8%), total 120 CP
Thesis (80) and researches (40): 120 CP (50%)

First part
Didactic 8 (80%), practical 2 (20 %), total 10 CP
Second part
Didactic 24, (22.4 %), practical 83 (77.6 %), total 107 CP
Elective courses: 3 credit points
#Didactic (lectures, seminars, tutorial)

According the currently applied bylaws:
Total courses: 120 credit point
Compulsory courses: 117 credit point (97.5%)
Elective courses: 3 credit point (2.5%)

	Credit points	% from total
▪ Basic courses	10	4.1%
▪ Humanity and social courses	3	1.2%
▪ Specialized courses	107	44.6%
▪ Others (Computer, …)		
▪ Field training	83	34.8%
Thesis	80	33.4%
2 published researches	40	16.7%
Master degree	180	

C-Program Time Table

Duration of program 4 years divided into

- Part 1

Program-related essential courses

Program-related essential courses

- Medical statistic
- Research methodology
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Students are allowed to sit the exams of these courses after 6 months from applying to the M D degree.

Students are allowed to sit the exams of the remaining essential courses after 12 months from applying to the MD degree.

Thesis and **2 published researches**

For the M D thesis;

MD thesis subject should be officially registered within 1 year from application to the MD degree,

Discussion and acceptance of the thesis should not be set before 24 months from registering the M D subject;

It could be discussed and accepted either before or after passing the second part of examination

- Part 2

Program –related specialized science courses and ILOs
Students are not allowed to sit the exams of these courses before 4 years from applying to the MD degree.

Two elective courses can be set during either the 1st or 2nd parts.
The students pass if they get 50% from the written exams and 60% from oral exams, 60% from clinical exams of each course and 60% of summation of the written exams, oral and clinical exams of each course
Total degrees 1700 marks.
500 marks for first part
1200 for second part
Written exam 40% - 70%.
Clinical and oral exams 30% - 60%.

D-Curriculum Structure: (Courses):

Levels and courses of the program:

Courses and student work load list	Course Code	Core Credit points		
		didactic #	training	total
First Part				
Essential Courses (10 CP)				
Course 1: Medical Statistics	FAC309A	1		1
Course 2: Research Methodology	FAC309B	1		1
Course 3: Medicolegal Aspects & Ethics in Medical Practice and Scientific Research	FAC310C	1		1
Histology (1) -Molecular Biology	HIS302A§	5	2	7
Elective courses*	3			
Thesis	80 CP			
Published researches**	40 CP			
Second Part	Specialized courses 24 CP Specialized Practical Work (log Book) 83 CP			
Specialized Courses Histology (2)	HIS302B	**24**		**24**
Specialized Practical Work	**HIS302B**		**83**	**83**
Total of second part		**24**	**83**	**107**

Course Histology 2

Units' Titles' list	% from total	Level (Year)	Core Credit points		
			Didactic	training	Total
1- Module 1: Advanced Cytology, histochemistry & microtechnique	29%	1 &2	6	25	31
2- Module 2: General Histology Advanced Histology "1"	22.4%	2	6	18	24
3- Module 3: Special Histology Advanced Histology "2"	33.6%	3	6	30	36
4- Module 4: Advanced Histology Advanced Histology "3"	15%	4	6	10	16
		1,2,3,4	24	83	107

#Didactic (lectures, seminars, tutorial)

* Elective courses can be taken during either the 1st or 2nd parts.

Student work load calculation:

Work load hours are scheduled depending on the type of activities and targeted competences and skills in different courses

Elective Courses#:

- Advanced medical statistics.
- Evidence based medicine.
- Advanced infection control.
- Quality assurance of medical education.
- Quality assurance of clinical practice.
- -Hospital management

Two of the above mentioned courses are prerequisites for fulfillment of the degree.

3. Thesis / Researches:

40 CP are appointed to the completion and acceptance of the thesis.

**Another 40 points are appointed to acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

6. Courses Contents (Annex 1)

The competency based objectives for each course/module/rotation are specified in conjunction with teaching/training methods, requirements for achieving these objectives and assessment methods.

See Annex 1 for detailed specifications for each course/ module

Annex 6 II: Program Matrix

7-Admission requirements

- **Admission Requirements (prerequisites) if any :**
  - **I. General Requirements:**
    - **Master degree in the specialty.**
  - **II. Specific Requirements:**
    - **Fluent in English (study language)**

VACATIONS AND STUDY LEAVE

The current departmental policy is to release resident from their practical duties for 10-15 days prior to the scheduled date for the first and final certifying M D degree exam.

FEES:

As regulated by the postgraduate studies rules and approved by the faculty vice dean of post graduate studies and the faculty and university councils.

8-Progression and completion requirements

- Examinations of the first part (Medical statistic, Research methodology and Medicolegal Aspects and Ethics in Medical Practice and Scientific Research) could be set at 6 months from registering to the MD degree.
- Students are allowed to sit the exams of the remaining essential courses of the first part after 12 months from applying to the MD degree.
- Examination of the second part cannot be set before 4 years from registering to the degree.
- Discussion of the MD thesis could be set after 2 years from officially registering the MD subject, either before or after setting the second part exams.
- The minimum duration of the program is 4 years.

The students are offered the degree when:

1. Passing the exams of all essential, elective and specialized courses of this program as regulated by the post graduates approved rules by the faculty council.
2. Completing all scheduled CP and log book (minimum 80%).
3. Discussion and acceptance of the MD thesis.
4. Acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

9-Program assessment methods and rules (Annex IV)

Method	ILOs measured
Written examinations: Structured essay questions Objective questions MCQ Problem solving	K & I
Practical: Slides OSPE	K ,I, P &G skills
Structured oral	K ,I &G skills
Logbook assessment	All
Research assignment	I &G skills

Weighting of assessments:

Courses		Degrees			
	Course Code	Written Exam	Oral and/or Practical l Exam		Total
First Part					
Essential Courses:					
Medical Statistics	FAC309A	35	15		50
Research Methodology	FAC309B	35	15		50
Medicolegal Aspects & Ethics in Medical Practice and Scientific Research	FAC310C	35	15		50
Histology (1) (Molecular Biology)	HIS302A§	150	100	100	350
Total		255	145	100	500
Second Part					
Specialized Courses: Histology (2)	HIS302B	600	375	225	1200
Histology (2**)** (Advanced cytology, Histochemistry & Microtechniques)		150			
-Histology (2) (Advanced Histology 1)		150			
Histology (2**)** (Advanced Histology 2)		150			
Histology (2) (Advanced Histology 3)		150			
Total of the second part		600	375	225	1200
Elective course 1		50	50		100
Elective course 2		50	50		100

* 25% of the oral exam for assessment of logbook

Total degree 1700

500 marks for first part

1200 for second part

Written exam 40 50.3% (400 855 marks).
Clinical and oral exam 60 49.7% (600 845 marks)
Elective courses 200

Examination system:

First part:

- Written exam 2 hours in Medical Statistics and Research Methodology + oral examination
- Written exam 1 hours in Medicolegal Aspects and Ethics in Medical Practice and Scientific Research + oral examination
- Written exam 3 hours in Histology (1) + oral examination and practical exam

Second part:

- Written exam four papers 3 hours for each in Histology 2 (Paper 1; Advanced cytology, Histochemistry & Microtechniques); Paper 2 Advanced Histology 1; Paper 3 Advanced Histology 2; Paper 4 Advanced Histology 3+ oral examination and practical exam

Elective courses

- Written exam one paper 1 hour in Elective course 1 + Oral & Practical exam
- Written exam one paper 1 hour in Elective course 2 + Oral & Practical exam

10-Program evaluation

By whom	Method	Sample
Quality Assurance Unit	Reports Field visits	#
Internal evaluators	Report	1
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
Stakeholders	Reports Field visits Questionnaires	#
Senior students	Questionnaires	#
Alumni	Questionnaires	#

#Annex 5 contains evaluation templates and reports (joined in the departmental folder)

11-Declaration

We certify that all of the information required to deliver this program is contained in the above specification and will be implemented.

All course specifications for this program are in place.

Contributor	Name	Signature	Date
Program Principle Coordinator:	**Prof. Dr. Sohair Abdelbaky Mohamed Eltony**		
Head of the Responsible Department (Program Academic Director):	**Prof. Dr. Nashwa Ahmed Mohamed Mostafa**		

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses/ modules

First Part

1) **Course 1: Medical Statistics**
2) **Course 2: Research Methodology**
3) **Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research**
4) **Course 4: Histology (1) (Molecular Biology)**

Course 1: Medical statistics

Name of department: Public Health and Community Medicine
Faculty of medicine
Assiut University
2016-2017

1. Course data

- **Course Title: Medical statistics**
- **Course code: FAC309A**
- **Specialty: offered to all clinical and academic specialties**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course:** Pubic Health and Community Medicine
- **Coordinator (s):**
  - Course coordinator: Prof. Ahmed M. Hany
  - Assistant coordinator (s):
    Prof. Farag Mohammed Moftah
    Prof. Hosnia Saeed Abdel Majeed
- Date last reviewed: **23/2/2017**
- **Requirements (pre-requisites) if any :**
  - Completed Master degree in any of the academic or clinical departments of Medicine.

2. Course Aims

Enable gradute students to use statistical principles to improve their professional work and develop the concept of critical interpretation of data

3. Intended learning outcomes (ILOs):To be able to use statistical principals to manage data

A knowledge and understanding

ILOS	Methods of teaching/ learning	Methods of Evaluation
A. List the types of variables	Lecture and discussion	Written examination
B. Identify the methods of data collection	Lecture and discussion	Written examination
C. Describe the different sampling strategies	Lecture and discussion	Written examination
D. Identify types of tabular and graphic presentation of data	Lecture and discussion	Written examination
E. Identify measures of central tendency and dispersion	Lecture and discussion	Written examination
F. Identify the characters of normal distribution curve.	Lecture and discussion	Written examination

B. intellectual

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Describe the normal curves.	Lecture& Discussions	Written examination
B. Describe and summarize data	Lecture& Discussions	Written examination
C. Select the proper test of significance	Lecture& Discussions	Written examination
D. Interpret the proper test of significance	Lecture& Discussions	Written examination

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design data entry files.	Tutorial on SPSS	Assignments SPSS exam
B. Validate data entry.	Tutorial on SPSS	Assignments SPSS exam
C. Manage data files.	Tutorial on SPSS	Assignments SPSS exam
D. Construct tables and graphs.	Tutorial on SPSS	Assignments SPSS exam
E. Calculate measures of central tendency and dispersion.	Tutorial on SPSS	Assignments SPSS exam
F. Select, apply and interpret the proper test of significance.	Tutorial on SPSS	Assignments SPSS exam

D general skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Appraise scientific evidence	Discussions	Research assignment
B. Use information technology to manage information, access on-line medical information; for the important topics.	tutorial	Research and audits' assignment

4. Course contents (topic s/modules/rotation

Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
Introduction	A-F	A-D	-	A&B
Tables and graphics	D	A-D	-	A&B
Sampling	C	-	-	A&B
Methodology of data collection	B	-	-	A&B
Type of variables	A	-	-	A&B
Proportion test& Chi-square test	E,F	C&D	-	A&B
Student T test& Paired T test	E,F	C&D	F	A&B
ANOVA test	E,F	C&D	F	A&B
Non parametric tests	E,F	C&D	F	A&B
Discrimination analysis factor analysis	E,F	C&D	-	A&B
SPSS Introduction	A-F	A-D	-	A&B
Data entry and cleaning of data	A	A-D	A-C	A&B
Transforming of variables	A	A&B	A-C	A&B
Descriptive statistics	D	A-D	D&E	A&B
Graphic presentation	D	A&B	D	A&B
Chi square and interpretation of results	E,F	C&D	F	A&B
Correlation Regression	E,F	C&D	F	A&B
Multiple and logistic Regression	E,F	C&D	F	A&B

5. Course Methods of teaching/learning

1. Lectures
2. Assignments
3. Discussions
4. Exercises
5. Tutorial on SPSS v.16

6. Course assessment methods:

i. Assessment tools:

1. Practical examination
2. Attendance and active participation
3. Assignments
4. SPSS examination
5. written exam

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for oral exam).

7. List of references

i. Lectures notes

Department lecture notes

ii. Essential books

Medical statistics

iii. Recommended books

Discovering statistics using SPSS

iii. Periodicals, Web sites, etc

8. Signatures

Course Coordinator: - Prof. Ahmed M. Hany	**Head of the Department:** - Prof. Ahmed M. Hany
Date: 23/2/2017	**Date**: **23/2/2017**

Course 2: Research Methodology

Name of department: All clinical and academic departments
Faculty of medicine
Assiut University
2016-2017

1. Course data

- **Course Title: Research methodology**
- **Course code: FAC309B**
- **Specialty: Offered to all clinical and academic specialties**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course: Department of public health**
- **Coordinator (s):**
  - **Course coordinator: Prof. Ali Zarzour**
  - **Assistant coordinator (s):**

    Prof. Mohamed H. Qayed
    Prof. Omaima El-Gibaly

- **Date last reviewed: 23/2/2017**
- **Requirements (prerequisites) if any :**
  - **Completed Master degree in any of the academic or clinical departments of Medicine.**

2. Course Aims

To provide graduate students with the skills of:

- Research proposal,
- Writing planning and implementing rigorous research,
- Writing and publishing scientific papers.

3. Intended learning outcomes (ILOs):To be able to write a rigorous research proposal

A knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Explain differences between different study designs	Lecture and discussion	Written examination
B. Identify sources and types of bias in research		
C. Describe the different sampling strategies, and compute sample size		
D. Select and design valid measurement tools for research		
E. Explain ethical issues in conducting research on human subjects		
F. describe the rules of authorship in scientific writing		
G. List the steps involved in proposal writing		

H. Identify a research problem within a conceptual framework	Lecture on Criteria to Consider to identify a research problem	discussion
I. Use the web sources to do a literature search	Practical tutorial on web	assignment
J. Select the appropriate study design for the research question	Lecture on various study designs	Written examination
K. Minimize bias in designing research	Lecture on the different types of bias	Written examination
L. Screening & theoretical background	Lectures on criteria for successful screening program& criteria for evaluation a screening test.	Written examination

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Apply basic science & knowledge for appraising scientific literature	Discussions &seminars	Written examination

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Develop a budget and time line for the research	Tutorial	Assignments
B. Design a data entry file	Tutorial on Epi-info or Excel	Assignments Written exam
C. Identify steps required in fielding the study	Lecture	Assignments Written exam
D. Identify steps required for calculation Sensitivity, Specificity, positive predictive value, negative predictive value, Accuracy of a screening test	Lecture	Assignments Written exam

D general skills

Practice based learning improvement & professionalism

(Scientific Paper writing skills)

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. To be able to write an abstract	Tutorial	Written examination case study for critque
B. Write the introduction	Tutorial	Written examination
C. Write the methodology section	Tutorial	Written examination
D. Present the results	Tutorial	Written examination
E. Perform Discussion section	Tutorial	Written examination
F. Learn Authorship ethical rules	Tutorial	Written examination

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	Intellectual B	Practical skills C	General Skills D
Introduction & proposal writing	G	A	A	A-F
Epidemiological Study designs	A,J	A	B,C	-
Screening & theoretical background	L	A	-	-
Screening practical	L	A	D	-
Sample size calculation	B	A	B,C	-
Research bias	H	A	C	F
Ethics in research	E,F	A	C	F

5. Course Methods of teaching/learning:

1. Lectures
2. Assignments
3. Discussion
4. Exercises

6. Course assessment methods:

i. Assessment tools:

1. Written examination
2. Attendance and active participation
3. Class
4. Assignments

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for oral exam).

7. List of references

i. Lectures notes

- Department lecture notes

ii. Essential books

- An epidemiologic Approach to Reproductive Health,CDC,FHI, and WHO Phyllis A. wingo, James E.Higgens, Goerge L. Rubin, and S.Christine Zahniser

iii. Recommended books

- Evidence Based Medicine How to practice and teach EBM.
- David Sachett, Sharon E. Straus, W.Scott Richardson , William Rosenberg R.Brain Haynes

iv. Periodicals, Web sites, … etc

- Dissertation workshop open courseware JHSPH

8. Signatures

Course Coordinator:	**Head of the Department:**
- **Prof. .Ali Zarzour**	**Prof. Omaima El-Gibaly**
Date: 23/2/2017	**Date: 23/2/2017**

Course 3: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Name of department:
Forensic medicine and clinical toxicology
Faculty of medicine
Assiut University
2016-2017

1. Course data

- **Course Title: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research**
- **Course code: FAC310C**
- **Specialty: All Academic Departments (1st part).**
- **Number of credit points: 1 credit point**
- **Department (s) delivering the course: Forensic Medicine and Clinical Toxicology**
- **Coordinator (s):**
  - **Course coordinator:** Prof. Wafaa Mohamed Abdel Moneium
  - **Assistant coordinator (s)** Assist. Prof. Amal Ali.Mohammed

- **Date last reviewed: 23-2-2017.**

- **Requirements (prerequisites) if any :**
  - **Completed Master degree.**

2. Course Aims

To describe the basic ethical and medicolegal principles and bylaws relevant to practice in the field of academic specialties

3. Intended learning outcomes (ILOs):

A. knowledge and understanding

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Mention medical ethics.	Lecture and discussion	Oral &Written exam
B. Explain ethics in research.	Lecture and discussion	Oral &Written exam
C. Mention medical laws.	Lecture and discussion	Oral &Written exam
D. List causes of medical responsibilities.	Lecture and discussion	Oral &Written exam

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A-Design and present case , seminars in common problem In medical responsibilities, medical ethics and ethics in research-	Lecture and discussion	Oral &Written exam

C. Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Write medical and legal reports.	Discussion	Discussion
B. Identify ethics in research.	Discussion	Discussion
C. Identify medical laws.	Discussion	Discussion
D. Identify medical responsibilities.	Discussion	Discussion

D. General skills

Practice-Based Learning and Improvement

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A. Make timely and legible medical records	Lecture and discussion	Global rating logbook
B. Acquire the teamwork skills	Lecture and discussion	Global rating logbook

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	**Intellectual** B	**Practical skills** C	**General Skills** D
1. Medical ethics	A,C,D	A	A,C,D	A,B
2. Ethics in research	B,C,D	A	B, ,C,D	A,B

5. Course Methods of teaching/learning:

1. Lectures.
2. Discussions.
3. Exercises.

6. Course assessment methods:

i. Assessment tools:

1. Written examination.
2. Attendance and active participation.
3. Oral examination.

ii. Time schedule: After 6 months from applying to the M D degree.

iii. Marks: 50 (35 for written exam and 15 for oral exam).

7. List of references

i. Lectures notes

- Course notes.
- Staff members print out of lectures and/or CD copies.

ii. Essential books

- Ballantyne B., Marrs T. and Syversen T.(1999):General and Applied Toxicology.2nd edition. MACMILLAN REFERENCE LTD.UK.
- Bernard Knight and Pekka Saukko (2004): Knight Forensic Pathology. Hodder Arnold press

iii. Recommended books

- Klassen D. (2001): Casarettand Doull s. Toxicology the basic science of poisons. McGrow. Hill press medical publishing division New York

iv. Journal and web site

- Journals of all Egyptian Universities of Forensic Medicine and Clinical Toxicology.
- All International Journals of Forensic Medicine and Clinical Toxicology which available in the university network at www.sciencedirect.com. As :
  - Forensic Science International Journal.
  - Toxicology Letter.

v. others

8. Signatures

- **Course Coordinator: Prof. Wafaa Mohamed Abdel Moneium**	- **Head of the Department: Prof. Wafaa Mohamed Abdel Moneium**
Date: 23-2-2017.	**Date: 23-2-2017.**

Course 4: *Histology (1) Molecular Biology*

Name of department: Histology department
Faculty of medicine
Assiut University
2020-2021/2021-2022

1. Course data

- **Course Title: Histology (1) Molecular Biology**
- **Course code: HIS302A§**
- **Specialty** : **Histology**
- **Number of credit points: 7 (100%)credit points;**5 credit point for didactic (71.5%) and 2 (28.5%)point for training
- **Department (s) delivering the course:** Department of Histology - Faculty of Medicine- Assiut- in conjunction with Molecular Biology Research Unit- Assiut University
- **Coordinator (s):**
  - **Course coordinator: Staff members of Molecular Biology unit, Assuit Uuniversity in conjunction with Histology Department approved by departmental Councils and Faculty Councils.**

Date last reviewed: January 2021.

Requirements (prerequisites) if any :

- None

- **Requirements from the students to achieve unit ILOs are clarified in the joining logbook.**

2. Course Aims

To acquire indepth Background of Molecular Biology necessary for Histology.

This course will offer a broad review of molecular biology for postgraduate students and residents in Histology department, focusing primarily on techniques and protocols routinely employed in basic science research.

3. Course intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A**. - Demonstrate principles of the following:** ➢ Chapter (1) - Cell &cell research. - Fundamentals of molecular biology. - Molecular basis of prokaryote & eukaryote. ➢ - From gene to protein. ➢ Chapter (2) - Type of mutations. - Mutagens. ➢ - Chromosomal abbreviations. ➢ Chapter (3) - PCR basics &techniques. - Plasmids. - Real time PCR. ➢ Chapter (4) - Gel electrophoresis (agarose & polyacyamide). - Pulsed field gel electrophoresis. ➢ - Protein analysis.	-Didactic (lectures, seminars, tutorial)	- Written and oral examination - Log book

B- Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Apply the basic (Molecular Biology) supportive sciences which are appropriate to Histology related problems.	-Didactic (lectures, seminars, tutorial)	-Written and oral examination - Log book
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to common clinical situations related to Molecular Biology.		

C- Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform the following: - PCR basics &techniques. - Plasmids. - Real time PCR. - Gel electrophoresis (agarose & polyacyamide). - Protein analysis.	Laboratory work	-Written , Practical and oral examination - Log book

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ Learning	Methods of Evaluation
A. Use information technology to manage information, access on-line medical information; and support their own education	-Observation and supervision -Written and oral communication	Log book Oral exam

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Write a report in common condition mentioned in A.A	-Clinical round -Seminars -Lectures	-Log book Oral exam -Chick list

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate a commitment to ethical principles	- Observation and supervision Written & oral communication	Oral exam Logbook

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Work effectively in different health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge A	**Intellectual** B	**Practical skills** C	**General Skills** D
Chapter (1) - Cell &cell research. - Fundamentals of molecular biology. - Molecular basis of prokaryote & eukaryote. ➢ - From gene to protein.	A	A&B	A	A-D
Chapter (2) - Type of mutations. - Mutagens. ➢ - Chromosomal abbreviations.	A	A&B	A	A-D
Chapter (3) - PCR basics &techniques. - Plasmids. ➢ - Real time PCR.	A	A&B	A	A-D
Chapter (4) - Gel electrophoresis (agarose & polyacyamide).	A	A&B	A	A-D

5. Course methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Laboratory work
3. Observation and supervision
4. Written & oral communication
5. Senior staff experience

6. Course methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)
2. Extra Laboratory work

7. Course assessment methods:

i. Assessment tools:

1. Written , Practical and oral examination
2. Log book

ii. Time schedule: After 12 months from applying to the M D degree.

iii. Marks: 350

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures and/or CD copies

ii. Essential books

iii. Recommended books

iv. Periodicals, Web sites, … etc

- **Periodicals:**
  - **Journal of Molecular Biology**
- **v. Others**

9. Signatures

Course Coordinator:	**Head of the Department:**
Date:	**Date:**

Course 5: *Histology(2)*

Name of department: Histology department
Faculty of medicine
Assiut University
2020-2021/2021-2022

1. Course Data

- **Course Title:** Histology (2)
- **Course code:** HIS302B
- **Specialty:** Histology
- **Number of credit point:** **Didactic 24, (22.4 %), practical 83 (77.6 %), total 107 CP**
- **Department (s) delivering the Course:** Histology and cell biology- Faculty of Medicine- Assiut University.
- **Coordinator (s):**
  - **Course coordinator:** **Prof.Dr. Amel Marzouk**
  - **Assistant coordinators:** **Prof.Dr. Sohair Eltony**
    Dr. Raghda Elsherif

Date last reviewed: January 2021
Requirements (prerequisites) if any:

➢ **General Requirements:**

- MBBCh Degree from any Egyptian Faculty of Medicine or equivalent MBBCh Degree from any medical school abroad approved by the Ministry of Higher Education with at least Grade "Good" in their final year examination, and grade good in the Histology course (in the first and second years).
- Master degree in Histology form any Egyptian Faculties of Medicine or equivalent Master Degree from medical schools abroad approved by the Ministry of Higher Education with at least Grade "Good".
- Regulatory rules of postgraduate studies of Assiut Faculty of Medicine.

➢ **Specific Requirements:**

- Preparation of slides (about 200) for student's labs according to the need of the histology department.

2. Course Aims

1- Achieve in depth knowledge about detailed light and electron microscopic structure of cell organelles and inclusions.

2- Discuss normal cellular growth, cell cycle and development and get sufficient Knowledge of the different types of tissues, structure and function of the body and of the molecular and cellular mechanisms.

3- Acquire training in the Laboratory aspects of the micro techniques and enable candidates to differentiate between different types of tissues after examination by light as well as electron microscope.

4- Acquire the ability to present seminars.

5- Master interpersonal & communication skills.

3. Intended learning outcomes (ILOs):

Course 5 Unit 1 (Advanced Cytology, histochemistry & microtechnique

A-Knowledge and understanding

ILOs	Methods of teaching/ Learning	*Methods of Evaluation*
A. Demonstrate details of the following: ▪ Advanced Cytology - Cell membrane and its modifications - Nucleus - Cytoplasm (membranous & - non- membranous organelles) - Cell inclusions - Cell activities * Cell divison * Cell locomotion * Endocytosis *Exocytosis - Cell cycle with spotlight on mitosis and factors controlling it ▪ Advanced Histochemistry - Cytochemical methods, their nature, types and limitations. - Microscopes (recent uses and applications). - Cytochemistry and histochemistry of protein, nucleic acid and nucleoproteins. - Carbohydrate and mucosubstance. - Lipids. - Enzyme histochemistry. - Immunohistochemistry. - Techniques of Autoradiography. - Some special histochemical methods. - Nanotechnology. ▪ Advanced Microtechnique	Didactic (lectures, seminars, tutorial)	Written &oral exams. Log Book requirements

- Fixation of tissues. - Basic methods of study in histology. - Theory and practice of staining. - Structure of dyes used in histology.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design / present case , seminars in common problem such as cell organelles with clinical correlations like lysosomal storage disorder and glycogen storage disorders ,mitochondrial diseases	-Didactic (lectures, seminars, tutorial) - Library and other learning resources and facilities at the university.	Included in Written &oral exams. Log Book requirements.
B. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to histology.		
C. Write scientific papers.		
D. Plan for quality improvement in the field of medical education and professional practice in histology.		
E. Create / innovate plans, systems, and other issues for improvement of performance in histology practice.		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform - specimen dissection .Tissue processing for light and Electron microscopes. - Microtechnique	-Direct observation of the practical work as: Dissection, processing of the specimens, sectioning of the paraffin blocks and Making different types of staining techniques and also identification and differentiation between different cellular structure when examined by TEM as well as SEM	Practical exam. - log book activities.
B. Perform Trimming safely and accurately, without damage to cellular structure.		
C. Become familiar with the various staining methods and their applications specially immunohistochemical staining with different antibodies.		
D. Recognize the microscopic features of cellular structure in normality and any deviation from normal.		
E. Set up a microscope with ergonomic safety and operate it effectively.		
F. Use Advanced Visualization Procedures as - digital imaging techniques that employ computer technology to capture and manipulate histological images (Digital Imaging Techniques) - Examination of Tissues by **Fluorescent microscope**		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in: Interpretation of the finding after some cytochemical methods. Interpretation of the immunohistochemical results after using specific antibodies as well as ultrastructural deviation from normal that might reflect the underlying pathological condition.	Different slides and photos Observation -Practical experimental and diagnostic skills are developed through laboratory and project work	Written essays in practical exam -team working skills through collaborative projects -Log book requirement
B. Locate, appraise, and assimilate evidence from scientific studies related to staining techniques and their reflection on different types of cells.		
C. Use information technology to manage information, access on-line medical information; for the research purpose, preparation of the lectures and seminars**.**		
D. Facilitate the learning of students the different Shapes and/colures of the same cell after using different staining techniques.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ Learning	Methods of Evaluation
E. Create and sustain a ethically sound relationship with students and others as a member of Research work team in the imaging of the slides and spot diagnosis of different types of tissues after staining by different staining methods	Observation & supervision Didactic	team working skills through collaborative projects, students representative work, Log book requirement
G. Work effectively with others as a member or leader of a health care team.		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
H. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.	Observation & supervision Didactic	Objective structured practical examination Log book requirement

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
I. Work effectively in different health care delivery settings and systems.	Observation & supervision Didactic	Log book requirement

Course 5: Unit 2 Advanced Histology 1 (General Histology)

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Demonstrate details of ❖ **Epithelial tissue** - Lining and covering epithelium - Glandular epithelium - Neuroepithelium ❖ **Connective tissue** - Loose connective tissue - Cells and fibers - Dense connective tissue Tendons and fibrous ligaments - Supporting connective tissue * Cartilage * Bone - joints – synovial membranes (- Histology- development – histophysiology – repair) -Histophysiology of connective tissue. ❖ **Bone marrow and blood cell** formation (Haemopoiesis) Blood elements (R.B.Cs, Leucocytes and platelets) Light and electron microscopic structure Relationship between structure and	Didactic (lectures, seminars, tutorial) - journal club,	Written &oral exams. Log Book requirements

function ❖ **Muscular tissue Light and electron microscopic structure** Histophysiology and mechanism of action Development and repair Of * striated muscles - skeletal muscle - cardiac muscles and heart Smooth muscles Neuro- muscular Junction ❖ **The nervous tissue** * The neurons synapses of neurons * peripheral nerves Sheaths and their formation and function *- Degeneration -Traumatic degeneration. - Retrograde degeneration -Wallerian degeneration *Regeneration of nerve fibers Neuroglia Types of neuroglia Functions of neuroglia Ganglia Nerve terminations Efferent termination Somatic efferent terminations Visceral efferent terminations -Afferent termination -Exteroceptors -Proprioceptors		

-Enteroceptors. *- Art of the basic and clinically supportive sciences which are appropriate to the different conditions of degeneration as: -Traumatic degeneration. - Retrograde degeneration -Wallerian degeneration and also regeneration of nerve fibers.		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design case, seminar in one of this module's problems.	Didactic (lectures, seminars, tutorial) - Library and other learning resources and facilities at the university.	Included in Written &oral exams. Log Book requirements.
B. interpretation of the finding after some Cytochemical methods.		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Enable candidates to differentiate between different types of tissues after examination by Light as well as electron microscope. B. Apply new techniques acquire for identification of tissues C. Use immunohistochemistry in differentiating different cell types.	-Differentiation between different types of tissues by light microscope after staining by different types of stains. -Identification and Differentiation of different tissues after examination by TEM and SEM	Spot diagnosis of different types of tissues in the practical exam -log book activities.

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in:- Some cytochemical methods. Some immunohistochemical results after using specific antibodies. Normal ultrastructure of tissues.	Different slides and photos Observation - Written & oral communications -Practical experimental and diagnostic skills are developed through laboratory and project work	Written essays in practical exam -team working skills through collaborative projects -Log book requirement
B. Locate, appraise, and assimilate evidence from scientific studies related to one of this module's staining techniques and its reflection on different types of tissues		
C. Use information technology to manage information, access on-line medical information; for the research purpose ,preparation of the lectures and seminars		
D. Facilitate the learning of students the different Shapes and/colors of the same tissue after using different staining techniques		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
E. Create and sustain a ethically sound relationship with students and others as a member of Research work team in the imaging of the slides and spot diagnosis of different types of tissues after staining by different staining methods	Observation & supervision Didactic	team working skills through collaborative projects, students representative work, Log book requirement
F. Perform the following oral communications: -About the result of the experimental work.		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
G. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of students and society that supersedes self-interest.	Observation & supervision Didactic	Objective structured practical examination Log book requirement
H. Demonstrate a commitment to ethical principles pertaining to provision or withholding of the student and scientific research care, confidentiality of the student information		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
I. Work effectively in such health care delivery settings and systems related to the module	Observation & supervision Didactic	Log book requirement
J. Practice cost-effective health care and resource allocation that does not compromise quality of care in this module		
K. Partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance		

Course 5: Unit 3(Advanced Histology 2)

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Demonstrate details of **Vascular system** * The general plane of the vascular system (1) The structure of Arteries - Elastic arteries - Muscular or distributing arteries - Transitional and specialized arteries - Arterioles - Arteriovenous anastomoses (2) Veins - Small veins and venules - Veins of medium size - Large veins (3) Capillaries (4) Sinusoids **Lymphatic vessels** * The immune system Cytology and histophysiology of the cells of the immune system -Lymphocytes - plasma cells - Macrophages (3) Lymphoid tissue * Diffuse lymphoid tissue * Lymphoid Nodules * Lymphatic organs Thymus – spleen – lymph node **Skin :** * Types of skin	Didactic (lectures, seminars, tutorial)	Written &oral exams. Log Book requirements

* Skin Appendages **- Endocrine glands :** * General characteristic features of the endocrine gland * Hypophysis * Thyroid and parathyroid glands * Adrenal gland * pineal gland * APUD system. **Diestive system :** * Oral cavity and associated glands - Mucous membrane - Tongue – lip - Salivary glands * The general structure of the digestive tract - the structure, function and modification * Oesophagus * Stomach (Cardiac, fundic and pyloric regions) * The structure of small intestine *The structure of large intestine * Structure and histophysiology of the liver - gall bladder - pancreas **Respiratory system:** - The olfactory epithelium - Histophysiology of the nose - Para nasal sinuses - Histophysiology of the conducting portion of the respiratory tract (Trachea, bronchi – bronchioles) - Histology and histophysiology of the respiratory portion of the lung (Respiratory bronchioles, Alveolar ducts) **The urinary system :**		

The histology structure of: - Uriniferous tubules - Structure and function of the nephron - Renal intersititium - Juxtaglomerular complex Histophysiology of the kidneys Renal pelvis and ureter Urinary bladder Male and female urethra **Male reproductive system :** Seminiferous tubules of the testis • Boundary tissue • Seminiferous epithelium • Spermatogenesis • Spermiogensis • The structural, functional • adaptation of the sperms • The cycle of the seminiferous epithelium • Histophysiology of the testis • Excretory ducts of the testis • Accessory glands of the male reproductive tract - Seminal vesicles - Prostate gland - Bulbourethral gland Histophysiology of ducts and accessory glands Fertilization The penis and mechanism of erection **Female Reproductive System :** * Ovary: Histology and histophysiology * Ovulation Fertilization Endocrine control of ovarian		

function Vestigial organs associated with the ovary The oviduct or fallopian tube External genitala Uterus Histophysiology of the myometrium Cyclic changes in the endometrium Proliferative phase (follicular phase) Secretory phase (luteal phase) Menstural phase Histology of the placenta Placental circulation Histology and histophysiology of the mammary gland		
B. State update and evidence based Knowledge related to the Unit.		
C. Mention the basic ethical and medico legal principles revenant to the Histology. Animal health care according to the world approved ethics and lab. safety methods.		
D. Explain the basics of quality assurance to ensure good professional skills in his field.		
E. Mention the ethical and scientific principles of medical research		
F. Explain the impact of common health problems in the field of histology on the society and how good clinical practice improve these problems		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design case, seminar in one of this module's problems: -Differentiation between the histological structure of different organs - Normal ultrastructure of different organs.	Didactic (lectures, seminars, tutorial) - Library and other learning resources and facilities at the university.	Included in Written &oral exams. Log Book requirements.
B. Apply the basic and clinically supportive sciences which are appropriate to the histology related conditions / problem / topics.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to histology		
D. Conduct or share in research projects.		
E. Write scientific papers.		
F. Participate in the management of risky conditions related to specialty.		
G. Plan for quality improvement in the field of medical education and professional practice in specialty.		
H. Create / innovate plans, systems, and other issues for improvement of performance in his practice.		
I. Present and defend his / her data in front of a panel of experts		
J. Formulate management plans and alternative decisions in different situations in the field of the histology.		

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Conduct Examination by LM and EM, identification of **Vascular system:-** 1) The Arteries - Elastic arteries - Muscular or distributing arteries -Transitional and specialized arteries (2) Veins - large veins - Veins of medium size **Lymphoid tissue:-** * Mucosa associated lymphoid Nodules * Lymphatic organs Thymus – spleen – lymph node- tonsils *Immunity &immune cells **Skin :-** * Types of skin (Thin & Thick) * Skin Appendages **Endocrine glands :** * Hypophysis * Thyroid and parathyroid glands * Adrenal gland * pineal gland **Digestive system :** - Tongue – lip - Salivary glands * Oesophagus	- Differentiation between different types of tissues by light microscope after staining by different types of stains. -Identification and Differentiation of different tissues after examination by TEM and SEM	Spot diagnosis of different types of tissues in the practical exam -log book activities.

* Stomach (Cardiac, fundic and pyloric regions) * The structure of small intestine *The structure of large intestine * Structure and histophysiology of the liver - gall bladder - pancreas **Respiratory system:** - The olfactory epithelium Histology of the nose Para nasal sinuses - Histology of the conducting portion of the respiratory tract (Trachea, bronchi – bronchioles) - Histology of the respiratory portion of the lung (Respiratory bronchioles, alveolar ducts, alveoli). **The urinary system :-** The histology structure of: - Uriniferous tubules - Structure and function of the nephron - Renal intersititium - Juxtaglomerular complex Renal pelvis and ureter Urinary bladder **Male reproductive system:-** Seminiferous tubules of the testis Seminiferous epithelium The cycle of the seminiferous epithelium Accessory glands of the male reproductive tract :		

Seminal vesicles Prostate gland The penis **Female Reproductive System :** Ovary The oviduct or fallopian tube Uterus External genitala Histology of the placenta Histology of the mammary Gland		
B. Perform the basic experiments in related basic sciences to be utilized in the research work.		
C. Develop out diagnostic and teaching plans for all Histology related skills.		
D. Counsel and educate students, technicians and junior staff, in the lab about conditions related to Histology; including handling of samples, devices, safety and maintenance of laboratory equipments.		
E. Use information technology to support practical decisions and students education		
F. Work with health care professionals, including those from other disciplines, to provide patient-focused care.		
G. Provide health care or any relevant services aimed at preventing Histology related health problems.		
H. Write competently all forms of professional reports related to the Histology (lab reports, experiments reports,)		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform practice-based improvement activities using a systematic methodology in the common problems (plan and conduct audit cycles) in: Cytochemical methods. Immunohistochemical results after using specific antibodies. Normal ultrastructure of organs.	Different slides and photos Observation - Written & oral communications -Practical experimental and diagnostic skills are developed through laboratory and project work	Written essays in practical exam -team working skills through collaborative projects -Log book requirement
B. Locate, appraises, and assimilates evidence from scientific studies related to one of this module's staining techniques and its reflection on different types of organs.		
C. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies		
D. Use information technology to manage information, access on-line medical information; for the research purpose, preparation of the lectures and seminars.		
E. Lead the learning of students and other health care professionals. the different Shapes and/colors of the same organ after using different staining techniques.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Create and sustain a ethically sound relationship with students and others as a member of Research work team in the imaging of the slides and spot diagnosis of different types of organs after staining by different staining methods.	Observation & supervision Didactic	team working skills through collaborative projects, students representative work, Log book requirement
G. Perform the following oral communications about the result of the experimental work.		
H. Fill the following reports: Light and Electron microscope results		
I. Work effectively with others as a member or leader of a health care team.		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
J. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of students and society that supersedes self-interest.	Observation & supervision Didactic	Objective structured practical examination Log book requirement
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of the student and scientific research care, confidentiality of the student information.		
L. Demonstrate sensitivity and responsiveness to others' culture, age, gender, and disabilities.		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
M. Work effectively in such health care delivery settings and systems related to the module.	Observation & supervision Didactic	Log book requirement
N. Practice cost-effective health care and resource allocation that does not compromise quality of care in this module.		
O. Advocate for quality health care and assist students in dealing with system complexities		
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance**.**		

Course 5: Unit 4 Advanced Histology (3)

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Demonstrate details of **Histology and histophysiology of the eye.** * Cornea * Limbus Sclera – ciliary body * iris – choroid * Retina and photoreceptors Refractive media of the ere * Eyelids and accessory organs of the ere * Lacrimal gland **Histology and histophysiology of the ear** External ear Middle ear And inner ear **Histology of sense of olfaction** • Site of olfactory epithelium • Cells of olfactory epithelium • Lamina propria of olfactory epithelium • Mechanism of olfaction of odoriferous substances. **Histology of sense of taste** • Structure of taste buds. • Types of cells in taste buds. • Tastants, taste receptors & mechanism of taste sensation. **Histology of sensory receptors and sense of touch** • Tactile receptors (un-encapsulated & encapsulated) **Histological structure of CNS including:** - Brain	seminars - journal club Electronic libraries.	Written & oral exam.

- Cerebrum - Cerebullum - Brain stem **Recent topics or subjects of seminars** prepared and discussed in the department of Histology		

B-Intellectual outcomes

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Design / present seminars in common problems related to special sense and neurohistology, dedicated by staff members B. Apply the basic and clinically supportive sciences which are appropriate to the special sense and neurohistology, related conditions / problem / topics. C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to special sense and neurohistology,. D. Conduct or share in research projects. E. Write scientific papers. F. Participate in the management of risky conditions related to special sense and neurohistology,. G. Plan for quality improvement in the field of medical education and professional practice in specialty. H. Create / innovate plans, systems, and other issues for improvement of performance in his practice. I.Present and defend his / her data in front of a panel of experts	Seminar presentation concerning advanced points or subjects as dedicated by staff members of the department.	Included in Written &oral exams.

C-Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Examine by LM and EM, identification of **Histology and histophysiology of the eye.** * Cornea * Limbus Sclera – ciliary body * iris – choroid * Retina and photoreceptors Refractive media of the ere * Eyelids and accessory organs of the ere * Lacrimal gland **Histology and histophysiology of the ear** External ear Middle ear And inner ear **Histological structure of CNS including:** - Brain - Cerebrum - Cerebullum - Brain stem	-Practical teaching.	Included in Written &oral exams
B. Use information technology to support decisions in common situations related to Histology.		

D-General Skills

Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Locate, appraises, and assimilates evidence from scientific studies related to one of this module's staining techniques and its reflection on different types of organs. .	Different slides and photos Observation - Written & oral communications	Written essays in practical exam -Log book requirement
B. Lead the learning of students and other health care professionals.		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
C. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of students and society.	Observation & supervision Didactic	Log book requirement

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
D.Work effectively in different health care delivery settings and systems.	Observation & supervision Didactic	Log book requirement

4. Course contents (topic s/modules/rotation
Course Matrix

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	**Intellectual**	**Practical skill**	**General Skills**
Unit 1Cytology, hiisttochemistry & microtechnique)				
Advanced Cytology ▪ Cell membrane - Nucleus - Cytoplasm - (membranous & non- membranous - organelles) Cell inclusions - Cell activities - Cell cycle -	**A**	**A-E**	**A-F**	**A-I**
▪ Advanced Histochemistry - Cytochemical methods, their nature, types and limitations. - Cytochemistry and histochemistry of protein, nucleic acid and nucleoproteins. - Carbohydrate and mucosubstance. - Lipids - Enzyme histochemistry. - Immunohistochemistry. - Techniques of Autoradiography.	**A**	**A-E**	**A-F**	**A-I**

- Some special histochemical methods.				
- Advanced Microtechniqu Preparation of tissue - for light microscop	**A**	**A-E**	**A-F**	**A-I**
Unit 2 Advanced Histology 1 [General Histology]				
epithelial tissue	A	A-C	A-C	A-K
Connective tissue	A	A-C	A-C	A-K
Bone marrow and blood cell	A	A-C	A-C	A-K
muscular tissue	A	A-C	A-C	A-K
nervous tissue	A	A-C	A-C	A-K
Unit 3 Advanced Histology 2				
Morphology of vascular system	**A-E**	**A-J**	**A-H**	**A-P**
Morphology of lymphatic system	**A-E**	**A-J**	**A-H**	**A-P**
Morphology of skin	**A-E**	**A-J**	**A-H**	**A-P**
Morphology of endocrine system	**A-E**	**A-J**	**A-H**	**A-P**
Morphology of Digestive system	**A-E**	**A-J**	**A-H**	**A-P**
Morphology of respiratory system	**A-E**	**A-J**	**A-H**	**A-P**
Morphology of urinary system	**A-E**	**A-J**	**A-H**	**A-P**
Morphology of male system	**A-E**	**A-J**	**A-H**	**A-P**
Morphology of female system	**A-E**	**A-J**	**A-H**	**A-P**
Unit 4 Advanced Histology 3				
Morphology of eye	**A**	**A**	**A-C**	**A-D**
Morphology of ear	**A**	**A**	**A-C**	**A-D**
Morphology of CNS	**A**	**A**	**A-C**	**A-D**

5. Methods of teaching/learning:

1. Didactic (lectures, seminars, tutorial)
2. Practical laboratory training.
3. Group work study.
4. Observation and supervision
5. Written & oral communication
6. Senior staff experience

6. Methods of teaching/learning: for students with poor achievements

1. Extra didactic (lectures, seminars, tutorial)
2. Extra laboratory work

7. Course assessment methods:

i. Assessment tools:

Written exam.

Oral exam.

Practical exam

ii. Time schedule: second part**.**

iii. Marks: 1000 degrees.

8. List of references

i. Lectures notes

Department lecture notes

ii. Essential books

-Histology Weiss and Greep, 1977

-Junqueira's Basic Histology Text and Atlas, NY: McGraw-Hill; 14th Edition, 2016

-Bancroft Theory and Practice of Histological techniques. *Bancroft, and Stevens, 2008*

-Carleton's Histological Technique, 1982

iii. Recommended books

-Ham's Histology, 9th Edition, 1987

- Bloom and Fawcett Concise Histology. D. W. Fawcett (Ronald P. Jensh, Contributing Editor). Chapman and Hall, 1998

-Gartner and Hiatte Color Textbook of Histology. 4th Edition, 2017

- Ross and Pawlina, 7th Edition, 2016

iv. Periodicals, Web sites, … etc

http://www. Pubmed.com

v. Others

- **None.**

Signatures

Unit Coordinator:	**Head of the Department:**
Date:	**Date:**

Academic reference standards for medical doctorate in Histology

1- Graduate attributes for medical doctorate

***The Graduate (after residence training and medical doctorate years of study) must*:**

1- Demonstrate competency and mastery of basics, methods and tools of scientific research and medical audit in the histology field of medicine.

2- Have continuous ability to add knowledge to histology through research and publication.

3- Appraise and utilise relevant scientific knowledge to continuously update and improve practical skills.

4- Acquire excellent level of medical knowledge in the basic biomedical, behavioural and related clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in practical skills and scientific research.

5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to histology.

6- Identify and create solutions for health problems related to histology.

7- Acquire an in depth understanding of common areas of speciality, from basic practice and related clinical care to application, and possession of required skills to manage independently all problems in these areas.

8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with other health professions, the scientific community and the public.

9- Function as teacher in relation to colleagues, medical students and other health professions.

10- Master decision making capabilities in different situations related to histology field of practice.

11- Show leadership responsiveness to the larger context of the related health care systems, including the organisation, partnership with health care providers and managers, and resource allocations.

12- Demonstrate in depth awareness of public health and related health policy issues including independent ability to improve health care, and identify and carryout system-based improvement of care.

13- Show model attitudes and professionalism.
14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages and in histology.
15- Use recent technologies to improve his practice in the histology field.
16- Share in updating and improving practical practice in the histology field.

2- Competency based Standards for medical doctorate

2.1- Knowledge and understanding

By the end of the program, the graduate should demonstrate satisfactory knowledge and understanding of

2-1-A- Established, updated and evidence-based theories, basics and developments of histology and relevant sciences.

2-1-B- Basic, methods and ethics of medical research.

2-1-C- Ethical and medicologal principles of medical practice related to histology field.

2-1-D- Principles and measurements of quality in the histology field.

2-1-E- Principles and efforts for maintaining and improvements of public health.

2- Intellectual skills

By the end of the program, the graduate should be able to demonstrate the following

2-2-A- Application of basic and other relevant science to solve histology related problems.

2-2-B- Problem solving based on available data.

2-2-C- Involvement in research studies related to histology.

2-2-D- Writing scientific papers.

2-2-E- Risk evaluation in the related clinical practice.

2-2-F- Planning for performance improvement in histology field.

2-2-G- Creation and innovation in histology field.

2-2-H- Evidence – based discussion.

2-2-I- Decision making in different situations related to histology fields.

2.3- Practical skills

By the end of the program, the graduate should be able to Competency-based outcomes for Student Care:-

2-3-A- Provide extensive level of practical and or laboratory services that can help student care ,solving health problems and better understanding of the normal structure and function extensive level means in depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in histology practice.

2-3-B- Master practical / laboratory skills relevant to histology.

2-3-C- Write and evaluate reports for situations related to the field of histology.

2.4- General skills

By the end of the program, the graduate should be able to

Competency-based outcomes for Practice-based Learning and Improvement

2-4-A- Master practice-based learning and improvement skills that involves investigation and evaluation and improvements of their own practice, appraisal and assimilation of scientific evidence and risk management.

2-4-B- Use competently all information sources and technology to improve histology practice.

2-4-C- Master skills of teaching and evaluating others.

Competency-based objectives for Interpersonal and Communication Skills

2-4-D- Master interpersonal and communication skills that result in effective information exchange and teaming with other health professionals.

Competency-based objectives for Professionalism

2-4-E- Master Professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles.

Competency-based objectives for Systems-based Practice

2-4-F- Demonstrate the ability to effectively use system resources to provide relevant services and care that is of optimal value.

2-4-G- Participate in improvement of the education system.

2-4-H- Demonstrate skills of leading scientific meetings including time management.

2-4-O- Demonstrate skills of self and continuous learning.

Annex 3, Methods of teaching/learning

Annex 3, Methods of teaching/learning

	Patient care	**Medical knowledge**	**Practice-based learning/ Improvement**	**Interpersonal and communication skills**	**Professionalism**	**Systems-based practice**
Didactic (lectures, seminars, tutorial)	X	X		X	X	X
journal club,	X	X	X			
Educational prescription	X	X	X	X	X	X
Present a case (true or simulated) in a grand round	X	X	X	X	X	
Observation and supervision	X		X	X	X	X
conferences		X	X	X		X
Written assignments	X	X	X	X	X	X
Oral assignments	X	X	X	X	X	X

Teaching methods for knowledge

- Didactic (lectures, seminars, tutorial)
- journal club
- Critically appraised topic
- Educational prescription (a structured technique for following up on clinical questions that arise during rounds and other venues).
- Present a case (true or simulated) in a grand round
- Others

Teaching methods for patient care

- Observation and supervision /Completed tasks procedure/case logs
- On-the-job" training without structured teaching is not sufficient for this skill (checklists).
- Simulation is increasingly used as an effective method for skill/ teamwork training.

Teaching methods for other skills

- Written communication (e.g., orders, progress note, transfer note, discharge summary, operative reports, and diagnostic reports).
- Oral communication (e.g., presentations, transfer of care, interactions with patients, families, colleagues, members of the health care team) and/or non verbal skills (e.g., listening, team skills)
- Professionalism, including medical ethics, may be included as a theme throughout the program curriculum that includes both didactic and experiential components (e.g., may be integrated into already existing small group discussions of vignettes or case studies and role plays, computer-based modules) and may be modeled by the faculty in clinical practice and discussed with the resident as issues arise during their clinical practice.

Annex 4, Assessment methods

Annex 4, ILOs evaluation methods for MD students.

Method	**Practical skills**	**K**	**Intellectual**	**General skills**			
	Patient care	**K**	**I**	**Practice-based learning/ Improvement**	**Interpersonal and communication skills**	**Professionalism**	**Systems-based practice**
Record review	X	X	X		X	X	X
Checklist	X				X		
Global rating	X	X	X	X	X	X	X
Simulations	X	X	X	X	X	X	
Portfolios	X	X	X	X	X		
Standardized oral examination	X	X	X	X	X		X
Written examination	X	X	X	X			X
Procedure/ case log	X	X					

Annex 4, Glossary of MD students assessment methods

- Record Review – Abstraction of information from patient records, such as medications or tests ordered and comparison of findings against accepted patient care standards.
- Chart Stimulated Recall – Uses the MD doctor's patient records in an oral examination to assess clinical decision-making.
- Mini clinical evaluation: Evaluation of Live/Recorded Performance (single event) – A single resident interaction with a patient is evaluated using a checklist. The encounter may be videotaped for later evaluation.
- Standardized Patients (SP) – Simulated patients are trained to respond in a manner similar to real patients. The standardized patient can be trained to rate MD doctor's performance on checklists and provide feedback for history taking, physical examination, and communication skills. Physicians may also rate the MD doctor's performance.
- Objective Structured Clinical Examination (OSCE) – A series of stations with standardized tasks for the MD doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the MD doctors.
- Procedure or Case Logs – MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.
- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.
- Case /problems – assess use of knowledge in diagnosing or treating patients or evaluate procedural skills.
- Models: are simulations using mannequins or various anatomic structures to assess procedural skills and interpret clinical findings. Both are useful to assess practice performance and provide constructive feedback.
- 360 Global Rating Evaluations – MD doctors, faculty, nurses, clerks, and other clinical staff evaluate MD doctors from different perspectives using similar rating forms.
- Portfolios – A portfolio is a set of project reports that are prepared by the MD doctors to document projects completed during the MD study years. For each type of project standards of performance are set. Example projects are summarizing the research literature for selecting a treatment option, implementing a quality improvement program, revising a medical student clerkship elective, and creating a computer program to track patient care and outcomes.

- Examination MCQ – A standardized examination using multiple-choice questions (MCQ). The in-training examination and written board examinations are examples.
- Examination Oral – Uses structured realistic cases and patient case protocols in an oral examination to assess clinical decision-making.
- Procedure or Case Logs – MD doctors prepare summaries of clinical experiences including clinical data. Logs are useful to document educational experiences and deficiencies.
- PSQs – Patients fill out Patient Survey questionnaires (PSQs) evaluating the quality of care provided by MD doctors.

Annex 5,
Program evaluation tools

By whom	Method	Sample
Quality Assurance Unit	Reports Field visits	#
External Evaluator (s):According to department council External Examiner (s): According to department council	Reports Field visits	#
Stakeholders	Reports Field visits questionnaires	#
Senior students	questionnaires	#
Alumni	questionnaires	#

Annex 6, Program Correlations:

مصفوفة توافق المعايير القومية القياسية العامة لبرامج الدكتوراة مع المعايير الأكاديمية المعتمدة من كلية الطب □ جامعة أسيوط لدرجة الدكتوراة فى الهستولوجيا وعلم الأنسجة

I-General Academic reference standards (GARS) for postgraduates versus Program ARS *for M.D degree in* Histology

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
1-إتقان أساسيات و منهجيات البحث العلمي	1- Demonstrate competency and mastery of basics, methods and tools of scientific research and medical audit in the chosen field of Histology.
2-العمل المستمر علي الإضافة للمعارف في مجال التخصص	2- Have continuous ability to add knowledge new developments to the speciality through research and publication.
3-تطبيق المنهج التحليلي والناقد للمعارف في مجال التخصص و المجالات ذات العلاقة	3- Appraise and utilise scientific knowledge to continuously update and improve practical skills
4-دمج المعارف المتخصصة مع المعارف ذات العلاقة مستنبطا و مطورا للعلاقات البينية بينها	4- Acquire excellent level of medical knowledge in the basic biomedical, related clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in practical skills and scientific research.
5-إظهار وعيا عميقا بالمشاكل الجارية و النظريات الحديثة في مجال التخصص	5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to Histology. 7- Acquire an in depth understanding of common areas of speciality, from basic practice and related clinical care to application, and possession of skills to manage independently all problems in these areas.
6-تحديد المشكلات المهنية و إيجاد حلولا	6- Identify and create solutions for

مبتكرة لحلها	health problems related to his specialty.
7-إتقان نطاقا واسعا من المهارات المهنية في مجال التخصص	5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to speciality. 7- Acquire an in depth understanding of common areas of speciality, from basic practice and related clinical care to application, and possession of skills to manage independently all problems in these areas.

1- Graduate attributes (Continuous)

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
8- التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية	16- Share in updating and improving practical practice in the histology field. 9- Function as teacher in relation to colleagues, medical students and other health professions.
9-استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية	15- Use recent technologies to improve his practice in the histology field.
10-التواصل بفاعلية و قيادة فريق عمل في سياقات مهنية مختلفة	8- Demonstrate leadership competencies including interpersonal and communication skills that ensure effective information exchange with other health professions, the scientific community and the public. 5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to histology.
11-اتخاذ القرار في ظل المعلومات المتاحة	10- Master decision making capabilities in different situations related to histology practice.
12-توظيف الموارد المتاحة بكفاءة و تنميتها والعمل على إيجاد موارد جديدة	11- Show leadership responsiveness to the larger context of the related health care system, including the organisation, partnership with health care providers and managers, and resource allocations.
13-الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة	12- Demonstrate in depth awareness of public health and related health policy issues including independent ability to improve health care, and identify and carryout system-based improvement of care.
14-التصرف بما يعكس الالتزام بالنزاهة و المصداقية و قواعد المهنة	13- Show model attitudes and professionalism.

15-الالتزام بالتنمية الذاتية المستمرة و نقل علمه و خبراته للآخرين	14- Demonstrate commitment for lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages in the histology 15- Use recent technologies to improve his practice in the histology field.

2- Academic standards

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
2-1-أ- النظريات و الأساسيات والحديث من المعارف في مجال التخصص والمجالات ذات العلاقة	2.1. A- Established updated and evidence-based theories, basics and developments of histology and relevant sciences.
2-1-ب - أساسيات و منهجيات و أخلاقيات البحث العلمي و أدواته المختلفة	2.1. B- Basic, methods and ethics of medical research.
2-1-ج- المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص	2.1. C- Ethical and medicologal principles of medical practice related to histology field.
2-1-د مبادئ و أساسيات الجودة في الممارسة المهنية في مجال التخصص	2.1. D- Principles and measurements of quality in the histology field.
2-1-هـ - المعارف المتعلقة بآثار ممارسته المهنية على البيئة وطرق تنمية البيئة وصيانتها	2.1. E- Principles and efforts for maintaining and improvements of public health.
2-2-أ -تحليل و تقييم المعلومات في مجال التخصص و القياس عليها و الاستنباط منها	2.2. A- Application of basic and other relevant science to solve histology related problems.
2-2-ب -حل المشاكل المتخصصة استنادا علي المعطيات المتاحة	2.2. B- Problem solving based on available data.
2-2-ج -إجراء دراسات بحثية تضيف إلى المعارف	2.2. C- Involvement in research studies related to the histology.
2-2-د- صياغة أوراق علمية	2.2. D- Writing scientific papers.
2-2—هـ تقييم المخاطر في الممارسات المهنية	2.2. E- Risk evaluation in the related histological practice.
2-2-و -التخطيط لتطوير الأداء في مجال التخصص	2.2. F- Planning for performance improvement in the histology field.
2-2-ز- الابتكار /الإبداع	2-2-G- Creation and innovation in the histology field.
2-2-ح- الحوار والنقاش المبني علي البراهين والأدلة	2.2. H- Evidence – based Discussion.

2-2-ط -اتخاذ القرارات المهنية في سياقات مهنية مختلفة	2.2. I- Decision making in different situations related to the histology field.
2-3-أ -إتقان المهارات المهنيـة الأساسـية و الحديثة في مجال التخصص	2.3. A- Provide extensive level of practical and or laboratory services that can help solving health problems and better understanding of the normal structure and function extensive level means in depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in histology practice. 2.3. B- Master practical / laboratory skills relevant to histology specialty.
2-3-ب- كتابة و تقييم التقارير المهنية.	2.3. C- Write and evaluate reports for situations related to the histology specialty.

2- Academic standards <u>(Continues)</u>

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
2-3-ج -تقييم و تطوير الطرق و الأدوات القائمة في مجال التخصص	2.4. A-Master practice-based learning and improvement skills that involves investigation and evaluation and improvements of histology practice, appraisal and assimilation of scientific evidence and risk management.
2-3-د – استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية	2.4. B- Use competently all information sources and technology to improve histology practice.
2-3-هـ -التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين	2.4. A-Master practice-based learning and improvement skills that involves investigation and evaluation and improvements of histology practice, appraisal and assimilation of scientific evidence and risk management. 2.4. G- Participate in improvement of the education system.

2- Academic standards (Continues)

NAQAAE General ARS for Postgraduate Programs	Faculty ARS
2-4-أ التواصل الفعال بأنواعه المختلفة	2.4. D- Master interpersonal and communication skills that result in effective information exchange and teaming with health professionals.
2-4-ب - استخدام تكنولوجيا المعلومات بما يخدم تطوير الممارسة المهنية	2.4. B- Use competently all information sources and technology to improve histology practice.
2-4-ج - تعليم الآخرين وتقييم أداءهم	2.4. C- Master skills of teaching and evaluating others. 2.4.G- Participate in improvement of the education system.
2-4-د - التقييم الذاتي والتعلم المستمر	2.4. E- Master professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles. 2.4.0- Demonstrate skills of self and continuous learning.
2-4-هـ - استخدام المصادر المختلفة للحصول على المعلومات و المعارف	2.4. C- Master skills of teaching and evaluating others.
2-4-و - العمل في فريق وقيادة فرق العمل	2.4. F- Demonstrate the ability to effectively use system resources to provide relevant services and care that is of optimal value.
2-4-ز - إدارة اللقاءات العلمية والقدرة علي إدارة الوقت	2.4.H- Demonstrate skills of leading scientific meetings including time management

Comparison between ARS and ILOS for MD degree in Histology

(ARS)	(ILOs)
2-1- Knowledge and understanding	***2-1- Knowledge and understanding***
2-1-A- Established, updated and evidence-based theories, basics and developments of histology and relevant sciences.	**2-1-A-** Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio behavioral science relevant to histology as well as the evidence based application of this knowledge to histology practice.
2-1-B Basic, methods and ethics of medical research. .	**2-1-B-** Explain basics, methodology, tools and ethics of scientific medical, clinical research.
2-1-C- Ethical and medicologal principles of medical practice related to histology field.	**2-1-C-** Mention ethical, medico logical principles and bylaws relevant to histology practice.
2-1-D- Principles and measurements of quality in histology field.	**2-1-D-** Mention principles and measurements of quality assurance and quality improvement in medical education and in histology practice.
2-1-E-Principles and efforts for maintaining and improvements of public health.	**2-1-E-** Mention public health and health policy issues relevant to histology and principles and methods of system –based improvement of histology practice.

Continuous (ARS)	Continuous (ILOs)
***2-2- Intellectual skills*:**	***2-2- Intellectual skills:***
2-2-A-Application of basic and other relevant science to solve histology related problems.	**2-2-A-** Apply the basic and clinically supportive sciences which are appropriate to the histology related conditions / problem / topics.
2-2-B-Problem solving based on available data.	**2-2-B-** Demonstrate an investigatory and analytic thinking "problem – solving "approaches to relevant situations related to histology.
2-2-C- Involvement in research studies related to the histology.	**2-2-C-** Plain research projects.
2-2-D Writing scientific papers.	**2-2-D-** Write scientific paper.
2-2-E-Risk evaluation in the related practice.	**2-2-E-** Participate in laboratory risk management activities as a part of clinical governance.
2-2-F-Planning for performance improvement in the histology field.	**2-2-F-** Plan for quality improvement in the field of medical education and practice in histology specialty.
2-2-G-Creation and innovation in the histology field.	**2-2-G-** Create / innovate plans, systems, and other issues for improvement of performance in histology practice.
2-2-H-Evidence – based discussion.	**2-2-H-** Present and defend his / her data in front of a panel of experts.
2-2-I-Decision making in different situations related to the histology field.	**2-2-I-** Formulate management plans and alternative decisions in different situations in the field of the histology.

continuous (ARS)	continuous (ILOs)
2-3- Clinical skills/Practical skills:	***2/3/1/Practical skills (Patient care :)***
2-3-A- provide extensive level of practical and or laboratory services that can help solving health problems and better understanding of the normal structure and function extensive level means in depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in histology field of practice.	**2-3-1-A-** Master practical skills relevant to that histology for all common techniques and /or experiments including.
	2-3-1-B- Master practical skills with non-routine, laboratory skills and techniques and under increasingly difficult circumstances, while demonstrating, appropriate and effective competency including.
2-3-B- Master practical/laboratory skills relevant to histology	**2-3-1-C-** Master proficiency in performing available complex laboratory techniques including immunoassaying.
	2-3-1-D- Gather essential and accurate information about practical/laboratory skills related of the histology including usage of different stains.
	2-3-1-F- Develop and carry out diagnostic and teaching plans for all histology / skills including slide projector, data show and monitors.
	2-3-1-G- Use information technology to support practical decisions and students education in all histology practice including power point presentations.
	2-3-1-I- Lead other professionals, including those from other disciplines, to provide

	practical/laboratory-focused care in histology related conditions including.
2-3-C- Write and evaluate reports for situations related to the histology.	**2-3-1-J-** Write competently all forms of professional reports related to the histology (lab reports, experiments reports,) including reports evaluating these charts and sheets.

Continuous (ARS)	continuous (ILOs)
2-4- General skills	***2/3/2 General skills***
2-4-A- Master Practice-Based Learning and Improvement skills that involves investigation and evaluation and improvements of their own practice, appraisal and assimilation of scientific evidence and risk management.	**2-3-2-A-** Demonstrate the competency of continuous evaluation of different types of histology practice including sectioning and processing of specimens. **2-3-2-B-** Appraise scientific evidence. **2-3-2-C-** Continuously improve his practice based on constant self-evaluation and life-long learning. **2-3-2-D-** Participate in medical audits and research projects. **2-3-2-E-** Practice skills of evidence-based Medicine (EBM). **2-3-2-G-** Design logbooks. **2-3-2-H-** Design guidelines and standard protocols for different techniques and procedures.
2-4-B- Use competently all information sources and technology to improve histology practice.	**2-3-2-I-** Apply knowledge of study designs and statistical methods to the appraisal of histology related studies. **2-3-2-J-** Use information technology to manage information, access on-line medical information; for the important topics.
2-4-C- Master skills of teaching and evaluating others.	**2-3-2-F-** Educate and evaluate students.
2-4-D- Master interpersonal and communication Skills that result in effective information exchange	**2-3-2-K-** Master interpersonal and communication skills that result in the effective exchange of

and teaming with other health professionals.	information and collaboration with students including:- share in teaching small groups of students. • Present a seminar. • Write a paper. • Teamwork skills. **2-3-2-L-** Create and sustain an ethically sound relationships with students. **2-3-2-M-** Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-N-** Work effectively with others as a member or leader of a health care team or other professional group.
2-4-E- Master Professionalism behavior, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse student population.	**2-3-2-O-** Demonstrate respect, compassion, and integrity; a responsiveness to the needs of students and society. **2-3-2-P-** Demonstrate a commitment to ethical principles including provision or withholding of student information. **2-3-2-Q-** Demonstrate sensitivity and responsiveness to others' culture, gender, and disabilities.
2-4-F- Demonstrate the ability to effectively use system resources to provide relevant services and care that is of optimal value. **2-4-G-** Participate in improvement of the education system.	**2-3-2-R-** Work effectively in academic and health care delivery settings and systems related to histology including good administer and time management. **2-3-2-S-** Practice cost-effective services provision and resource allocation that does not compromise

	quality. **2-3-2-T-** Advocate for quality student care. **2-3-2-U-** Design, monitor and evaluate specification of under and post graduate courses and programs.
2-4-H- Demonstrate skills of leading scientific meetings including time management	**2-3-2-V-** Act as a chair man for scientific meetings including time management **2-3-2-R-** Work effectively in academic and health care delivery settings and systems related to histology including good administrative and time management.
0- Demonstrate skills of self and continuous learning.	From A to H**.**

II-Program matrix

Knowledge and Understanding

Course	Program Covered ILOs				
	2/1/A	2/1/B	2/1/C	2/1/D	2/1/E
Course 1: Medical Statistics		✓			
Course 2: Research methodology		✓			
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research			✓		
Course 4: Histology (1) Molecular Biology	✓				
Course 5:Histology (2)	✓	✓	✓	✓	✓

Intellectual

Course	Program Covered ILOs								
	2/2/A	2/2/B	2/2/C	2/2/D	2/2/E	2/2/F	2/2/G	2/2/H	2/2/I
Course 1: Medical Statistics			✓	✓				✓	✓
Course 2: Research methodology			✓	✓				✓	✓
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research								✓	
Course 4: Histology (1) Molecular Biology	✓	✓							
Course 5:Histology (2)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Practical Skills

Course	Program Covered ILOs									
	2/3/1/A	2/3/1/B	2/3/1/C	2/3/1/D	2/3/1/E	2/3/1/F	2/3/1/G	2/3/1/H	2/3/1/I	2/3/1/J
Course 1: Medical Statistics										
Course 2: Research methodology										
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research				✓						✓
Course 4: Histology (1) Molecular Biology										
Course 5:Histology (2)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program Covered ILOs								
	2/3/2/A	2/3/2/B	2/3/2/C	2/3/2/D	2/3/2/E	2/3/2/F	2/3/2/G	2/3/2/H	2/3/2/I
Course 1: Medical Statistics		✓							
Course 2: Research methodology									✓
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research									
Course 4: Histology (1) Molecular Biology									
Course 5:Histology (2)	✓	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program Covered ILOs						
	2/3/2/J	2/3/2/K	2/3/2/L	2/3/2/M	2/3/2/N	2/3/2/O	2/3/2/P
Course 1: Medical Statistics	✓						
Course 2: Research methodology							
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research							
Course 4: Histology (1) Molecular Biology	✓	✓				✓	
Course 5:Histology (2)	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program Covered ILOs					
	2/3/2 /Q	2/3/2 /R	2/3/2 /S	2/3/2 /T	2/3/2 /U	2/3/2 /V
Course 1: Medical Statistics						
Course 2: Research methodology						
Course 3 : Medicolegal Aspects and Ethics in Medical Practice and Scientific Research						
Course 4: Histology (1) Molecular Biology		✓				
Course 5:Histology (2)	✓	✓	✓	✓	✓	✓

Annex 7, Additional information:

Department information:

-Four student's labs. (A,B,C&D).
-Monitor system.
-Lecture room with data show.
-Lab. for preparation of student's slides.
-Lab for postgraduate students and post doctoral research
-Immunohistochemistry lab
- imaging analysis system with digital camera
- Fluorescent Microscopy room

Staff members:

Prof. Rokaia A. Shamikh

Prof. Sanaa A. Elgayar

Prof. Madiha M. Mohamed

Prof. Safaa A.Abdel-Maksoud

Prof. Manal M. Shehata

Prof. Amal Taha Abou-Elghait

Prof. Heba M.Saad-Eldin

Prof. Amal M. Marzouk

Prof. Sohair A. Eltony (HEAD OF HISTOLOGY DEPARTMENT)

Prof.Hemmat H.Ghafeer

Prof. Kawthar M.Abdel-Hamid

Prof. Dalia Abdou El-Gamal

Ass.Prof. Manal Mohamed Sayed

Ass.Prof. Manal Othman

Ass.Prof. Nashwa A.M.Mostafa

Ass. Prof. Ola Abdel-Tawabe

Ass. Prof. Salwa Fares Ahmed

Ass. Prof Safaa Saeed Hassan

Ass. Prof Fatma Yassen AbdelMotagaly

Ass. Prof Asmaa Fathy

Ass. Prof Heba A. Mubarak

Dr. Tarek Hamdy AbdelHameed

Dr. Alshaimaa Abdelkhaliq

Dr. Marwa Hassan Bakr

Dr. Maha Abdel Raaouf

Dr. Amel Abdeltawab

Dr. Raghda Elsherif

Opportunities within the department:

-Scientific Library
- Seminar room.
-Immunohistochemical lab.
-Fluoresence microscope.
-Research lab.
-Morphometric study lab.
-Ultratome lab.

- **Department quality control insurance for completing the program:**

- Evaluation by the Department head and staff members.
- Regular assessments.
- Log book monitoring.

(End of the program specifications)