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

(According to currently applied Credit point bylaws)

Anatomy
Faculty of medicine
Assiut University
2022-2023

Contents

M. D. degree of Anatomy

A. Basic Information

- **Program Title: M.D. Degree of Anatomy**
- **Nature of the program: Single.**
- **Responsible Department: Department of anatomy.**
- **Program Academic Director (Head of the Department): Prof. Dr. Hoda Ahmed Mohammed Abdel Aziz**
- **Coordinator (s):**

-Principle coordinator: Prof. Dr. Faten Yousseif Mahmoud.
-Assistant coordinator (s) Dr. Merry Beniamen kostandy.

- **Internal evaluators: Prof Dr Refaat Shehata**
- **External evaluator: : Prof Dr Mohammed Ahmed Desoky**
- **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** and 2 elective courses

B. Professional Information

1- Program aims

1/1.Dscribetheanatomy of different parts of human body.
1/2. Development of different systems in the body & their congenital anomalies.
1/3.Acquire a back ground about applied anatomy (application of the anatomical information in clinical field)
1/4 To enable candidates to perform high standard scientific medical research and how to proceed with publication in indexed medical journals.
1/5 To enable candidates to describe the basic ethical and medicolegal principles relevant to Anatomy.
1/6 To enable candidates to have professional careers as a consultant in Egypt but recognized abroad.
1/7 To enable candidates to continue self-learning in subspecialties.
1/8 To enable candidates to master different research methodology and do their own.

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

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 Anatomy

2/2 Intellectual outcomes

A. Apply the basic and clinically supportive sciences which are appropriate to the specialty related conditions / problem / topics.

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

C. Plan research projects.

D. Write scientific paper.

E. Participate in clinical or laboratory risk management activities as a part of clinical governance.

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

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

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

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

2/3 Skills

2/3/1 Practical skills (Patient Care)

A. Master practical skills relevant to that Anatomy for all common techniques and /or experiments.
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 of Anatomy related conditions.
E. Make informed decisions about diagnostic laboratory tests for the Anatomy related conditions.
F. Develop and carry out diagnostic and teaching plans for all specialty related conditions / skills.
G. Use information technology to support practical decisions and students education in Anatomy related practical situations.
H. Provide health care or any relevant services aimed at preventing Anatomy related health problems.
I. Lead other professionals, including those from other disciplines, to provide practical/laboratory-focused care in Anatomy related conditions.
J. Write competently all forms of professional reports related to the specialty (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 including service provision to patients in the different areas of his field.
B. Appraise scientific evidence.
C. Continuously improve his practice including service provision to patients based on constant self-evaluation and life-long learning.
D. Participate in medical audits and research projects.
E. Practice skills of evidence-based Medicine (EBM).
F. Educate and evaluate students, mentors and other health professionals.
G. Design logbooks
H. Design guidelines and standard protocols for different techniques and procedures.
I. Apply knowledge of study designs and statistical methods to the appraisal of specialty related studies
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 patients, their families, and health professionals, including:-

- Present a case.
- Write a consultation note.
- Inform patients of a diagnosis and therapeutic plan, Completing and maintaining comprehensive timely and legible medical records.
- Teamwork skills.

L. Create and sustain a therapeutic and ethically sound relationship with patients.
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 patients and society.

P. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.

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

Systems-Based Practice

R. Work effectively in academic and health care delivery settings and systems related to specialty including good administrative and time management.

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

T. Advocate for quality patient care and assist patients 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 Anatomy

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

1. **ACGME (Accreditation Council for Graduate Medical Education).**

http://www.acgme.org/acWebsite/navPages/nav_Public.asp

2. **-Pennsylvania State University** the course for phd degree include Gross Human Anatomy , Human Embryology ,Human Microscopic Anatomy, Human Neurobiology and statistics. Their courses Include additional courses in Cell and Systems Biology , Regulation of Cellular and Systemic Energy Metabolism and Ethics in the Life Sciences.

http://www.pennstatehershey.org/web/anatomy

3. **Boston university** the courses required for Ph.D. in anatomy include: Medical histology or Gross anatomy, Medical Neuroscience, Cell or Molecular Biology, Methods in Neurobiology Experimental Design & Statistics and Professional Development/Ethics. our courses don't' include professional development or cell or molecular biology in.

http://www.bumc.bu.edu/anatneuro

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 #: 37 (30.8%), practical 83 (69.2%), total 120 CP

Thesis (80) and researches (40): 120 CP (50%)

First part

Didactic 10 (100%), practical 0 (0 %), 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	2.3%
▪ Humanity and social courses	3	0.7%
▪ Specialized courses	107	25 %
▪ Others (Computer, …)	-	-
▪ Field training	-	-
Thesis	80	19 %
2 published researches	40	9 %
Master degree	180	

C-Program Time Table

Duration of program 4 years divided into

- Part 1

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 Course 2: Research Methodology Course 3: Medicolegal Aspects & Ethics in Medical Practice and Scientific Research Course 4:S Anatomy 1 science of growth &anthropology and comparative anatomy	 FAC309A FAC309B FAC310C ANA301A	 1 1 1 7		 1 1 1 7
Elective courses*	3 CP			
- Elective course 1 - Elective course 2				1.5 1.5
Thesis	80 CP			
Published researches**	40 CP			
Second Part	Specialized courses 24 CP Specialized Practical Work (log Book) 83 CP			
Specialized Courses: Course 5:Anatomy 2 1) Unit 1 Basic anatomy 2) Unit 2 Advanced Neuro anatomy 3) Unit 3 Advanced Embryology	**ANA301B**	**24**		**24**
Specialized Practical Work			**83**	**83**
Total of second part		**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.

Course Anatomy 2

Units' Titles' list	% from total	Level (Year)	Core Credit points		
			Didactic	training	Total
Unit 1: Basic Anatomy	50%	2,3,4	12	43	55
Unit 2: Advanced Neuroanatomy	25%	2,3,4	6	20	26
Unit 3: Advanced Embryology	25%	2,3,4	6	20	26
			24	83	107

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: 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
Anatomy 1 Science of growth and anthropology and comparative anatomy	ANA301A	250	100		350
Total		355	145		500
Second Part					
	Course code	written	oral	Practical	Total
Specialized Courses Anatomy 2 Paper 1 (Abdomen-Pelvis) Paper 2 (Head & neck - Lower &	ANA103B	 150 150 150	300	300	1200

upper limbs) Paper 3 Advanced Embryology Paper 4 Advanced Neuro anatomy		**150**			
Total of the second part		**600**	**300**	**300**	**1200**
Elective course 1		**50**	**50**		**100**
Elective course 2		**50**	**50**		**100**

*** 25% of the oral exam for assessment of logbook**

Course Anatomy 2

Units' **(Module)**Titles' list	% from total Marks	Degrees			
		Written Exam	Oral Exam *	Practical / Clinical Exam	Total
Unit 1: Basic Anatomy	**50%**	300	150	150	600
Unit 2: Advanced Neuroanatomy	**25%**	150	75	75	300
Unit 3: Advanced Embryology	**25%**	150	75	75	300
Total No. of Units (Modules):	**3**	600	300	300	1200

500 marks for first part

1200 for second part

Written exam 50 % (600 marks).

Practical and oral exams 50% (600 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 Anatomy 1 science of growth and anthropology and comparative anatomy + oral exam**

➢ **Second part:**

- **Written exam four papers 3 hours for each in Anatomy 2 (Paper 1 (Abdomen- Pelvis Paper 2 Head & neck - Lower & upper limbs), Paper 3 Advanced Embryology , Paper 4 Advanced Neuro anatomy) + Oral exam+ 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	#
1. External Evaluator (s):According to department council 2. 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.

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 Faten Youssef**		
Head of the Responsible Department (Program Academic Director):	**Prof. Dr Hoda Ahmed**		

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses/ modules

First Part

Course 1: Medical statistics

Name of department: Public Health and Community Medicine
Faculty of medicine
Assiut University
2022-2023

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. Farag Mohammed Moftah
  - Assistant coordinator (s):
    Prof. Medhat Araby Khalil Saleh
- Date last reviewed: January -2022
- **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
G. Detect the difference between parametric and non-parametric tests	Lecture and discussion	Written examination
H. Identify the concepts of correlation and regression	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
E. Describe the difference between parametric and non-parametric tests	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. Attendance and active participation
2. Assignment
3. Practical SPSS examination
4. 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 practical exam).

7. List of references

i. Lectures notes

Department lecture notes

ii. Essential books

- Medical Statistics: Book by Ramakrishna HK 2016
- Janet Peacock and Philip Peacock. Oxford Handbook of Medical Statistics (second edition.) Publisher: Oxford University Press, Print Publication Date: Nov 2010 Print ISBN-13: 9780199551286, Published online: Jun 2011. DOI: 10.1093/med/9780199551286.001.0001
- Leslie E. Daly MSc, PhD, Hon MFPHM,, Geoffrey J. Bourke MA, MD, FRCPI, FFPHM, FFPHMI, Interpretation and Uses of Medical Statistics, Fifth Edition, First published:1 January 2000, Print ISBN:9780632047635 |Online ISBN:9780470696750 |DOI:10.1002/9780470696750
- Marcello Pagano, Kimberlee Gauvreau: Principles of Biostatistics second edition published in 2000 by Brooks/Cole and then Cengage Learning. CRC Press, Feb 19, 2018 - Mathematics - 584 pages.

Iii- Recommended books

- Ji-Qian Fang (Sun Yat-Sen University, China) Handbook of Medical Statistics: https://doi.org/10.1142/10259 | September 2017.Pages: 852
- Robert H. Riffenburgh: Statistics in Medicine 4th Edition (2020). EvidenceEvidence Based Medicine How to practice and teach EBM.
- Discovering Statistics Using IBM SPSS Book by Andy Field, 2013.

iii. Periodicals, Web sites, etc

iv. **Periodicals , etc** Statistics in Medicine - Wiley Online Library

v. **Web sites** https://www.phc.ox.ac.uk/research/medical-statistics

8. Signatures

Course Coordinator: - Farag Mohammed Moftah	**Head of the Department:** - Prof. Eman Morsy Mohamed
Date: 10-1-2022	**Date**: 10-1-2022
Associated Coordinator: Prof. Medhat Araby Khalil Saleh	
Date: 10-1-2022	

Course 2: Research Methodology

Name of department: Public Health and Community Medicine
Faculty of medicine
Assiut University
2021-2022

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. Mahmoud Attia

Assistant coordinator (s): Prof. Ekram Mohamed

- Prof. Medhat Araby Khalil

- **Date last reviewed:** January 2022
- **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:

- planning and implementing sound research
- writing a scientific research proposal

3. Intended learning outcomes (ILOs)

A knowledge and understanding

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Explain differences between different study designs.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
B. Identify sources and types of bias in research.	Lecture and discussion Practical sessions	Written exam Log book assignments Practical exam
C. Identify methods of data collection.	Lecture and discussion Practical sessions	Written exam Log book assignments
D. Select and design valid measurement tools for research.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
E. Explain ethical issues in conducting research on human subjects.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments
F. List the steps involved in proposal writing.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments Practical exam
G. Identify a research problem within a conceptual framework.	Lecture Discussion	Written exam Log book assignments Practical exam

H. Use the web sources to do a literature search	Practical tutorial on web	Log book assignment
I. Describe the rules of authorship in scientific writing.	Lecture and discussion Practical sessions Workshops	Written exam Log book assignments
J. Select the appropriate study design for the research question.	Lecture Practical sessions	Written exam Practical exam
K. Minimize bias in designing research.	Lecture	Written exam
L. Screening & theoretical background	Lectures	Written exam Practical exam
M. Mention the basic ethics for conducting a research and medicolegal principles relevant to data confidentiality.	lectures seminar	Written exam Practical exam

B. intellectual

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A- Apply basic science & knowledge for appraising scientific literature.	Discussions &seminars	Written exam Practical exam
B- Design research and present study data, in seminars.	lecture seminar	log book assignments
C- Design suitable epidemiological study.	lecture seminar	log book assignments
D- Design strategies for resolving ethical concerns in research, law, and regulations.	lecture Workshops	Written exam log book assignments
E- Apply coherently synthesize ideas and integrate lateral and vertical thinking.	lecture Workshops	log book assignments
F- Evaluate screening tests and interpreting their uses in different population.	lecture	Written exam Practical exam

C.Practical skills

Competency and Skills	Methods of teaching/ learning	Methods of Evaluation
A- Conduct epidemiological studies, screening and surveys.	lectures seminar	written exam log book assignments
B- Identify steps required in fielding the study.	Lecture	Assignments Written exam
C- Managing data collection team.	lectures seminar	log book assignments
D- Identify steps required for calculation sensitivity, specificity, positive predictive value, negative predictive value, accuracy of a screening test.	Lecture Practical sessions	Assignments Written exam Practical exam
E- Be able to define and apply the epidemiologic criteria of causality and be able to distinguish between a measure of association and evidence of causality.	Lecture Practical sessions	Assignments Written exam Practical exam
F- Synthesize information from multiple sources for research writing and the ability to perform paper critique .	Lecture Practical sessions	Assignments Written exam Practical exam
G- Identify bias and confounding in epidemiological study designs, their types and ways to control them in various types of biases.	Lecture Practical sessions	Assignments Written exam Practical exam

D General skills
Practice-Based Learning and Improvement

ILOs	Methods of teaching/ learning	Methods of Evaluation
A- Scientific paper and proposal writing skills: be able to write an introduction, objectives and the methodological section.	Tutorial	Written examination
B- Learn authorship ethical rules.	Tutorial	Written examination
C- Perform practice-based improvement activities using a systematic methodology (audit, logbook, critical appraisal)	- Lectures -Practical sessions - Discussion - Readings	critical appraisal
D- Appraise evidence from scientific studies(journal club)	- Lectures -Practical sessions - Discussion - Readings	critical appraisal
E- Conduct epidemiological studies, screening and surveys.	- Lectures -Practical sessions - Discussion - Readings	attendance and participation
F- Facilitate training of junior students and other health care professionals in different screening activities.	Field work Participation in projects	attendance and participation

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
G- Maintain ethically sound relationship with community members.	- Lectures -Practical sessions - Discussion - Readings	Written exams
H- Provide information using effective nonverbal, explanatory, questioning, and writing skills.	- Lectures -Practical sessions - Discussion - Readings	Written exams Practical exams
I- Present results of researches in seminars.	- Lectures -Practical sessions - Discussion - Readings	Log book assignments

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation
J- Demonstrate respect, compassion, and integrity to the needs of society.	- Lectures - Discussion - Readings	Written exams
K- Manage potential conflicts of interest encountered by practitioners, researchers, and organizations.	- Lectures - Discussion - Readings	Written exams
L- Design strategies for resolving ethical concerns in research, law, and regulations.	Lectures - Discussion - Readings	Written exams Practical exams
M- Demonstrate ways to control for confounding in the analysis phase of a study	Lectures - Discussion - Readings	Written exams Practical exams
N- Demonstrate a commitment to ethical principles including confidentiality of participants' information and informed consent.	Lectures - Discussion - Readings	Written exams
O- Assess ethical considerations in developing communications and promotional initiatives.	- Lectures - Discussion - Readings	Written exams

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**
Over view on research conduction and research ethics	A&E	A-D	A-C	C-G, I,L&M-O
How to write a research proposal	F,I	E	F	A-C&H
Observational study design	A& D	B & C	D	E & F
Experimental study design	A& D	B & C	B	E & F
Evaluation of diagnostic tests (Screening)	L	A	B& E	F
Systematic reviews and meta analysis	G, H & M	E& F	F	C, D
Confounding, bias & effect modification	B & K	D	E & G	M

5. Course Methods of teaching/learning:

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

6. Course assessment methods:

i. Assessment tools:

1. Attendance and participation
2. Log book assignments
3. Written examination
4. Practical examination

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

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

7. List of references

i. Lectures notes

- Department lecture notes

ii. Essential books

- Research Design: Qualitative, Quantitative and Mixed Methods Approaches 4th Edition by John W. CreswellSAGE Publications, Inc; 4th edition (January 1, 2014)
- Research methodology: A step – by – step Guide for Beginners. Ranjit Kumar, 2020. Second edition https://books.google.com.eg/books?
- Medical Research Essentials Rania Esteitie, McGraw Hill Professional, third edition, Feb 5, 2014 - Medical - 104 pages
- Research Methodology in the Medical and Biological Sciences Petter Laake, Haakon Breien Benestad, Bjorn R. Reino Olsen, 4th edition , Academic Press, Nov 5, 2007 - Science - 512 pages

iv. Recommended books

- Research Methods in Education 7th Edition, by Louis Cohen, Lawrence Manion, Keith Morrison Publisher: Routledge; (April 22, 2011) www.routledge.com/textbooks/cohen7e.
- Research Methodology: A Practical and Scientific Approach Vinayak Bairagi, Mousami V. Munot · 2019, Research Methodology: A Practical and Scientific Approach - Google Books
- Based Medicine How to practice and teach EBM. David Sachett, Sharon E. Straus, W. Scott Richardson , William Rosenberg R.Brain Haynes
- Dissertation workshop open courseware JHSPH

8. Signatures

Course Coordinator: Prof.Mahmoud Attia	**Head of the Department:** Prof. Eman Morsy Mohamed
Date: 10-1-2022	**Date**: 10-1-2022

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

1. Course data

- **Course Title: Medicolegal Aspects and Ethics in Medical Practice and Scientific Research**
- **Course code: FAC310C**
- **Speciality: 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. Ghada Omran
  - **Assistant coordinator (s).** Prof. Zaghloul Thabet

- **Date last reviewed: 17/4/2022.**

- **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.(human and animal)	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

- Bernard Knight and Pekka Saukko (2015: Knight Forensic Pathology. Hodder Arnold press
- Goldfrank, Lewis R.; Howland, Mary Ann; Hoffman, Robert S.; Nelson, Ewis S.; Lewin, Neal A (2019): Goldfrank's Toxicologic Emergencies, 11th ed. McGraw Hill / Medical.
- Medical Ethics Manual. World medical association. Third edition 2015.
- Medical ethics and law. Dominic Wilkinson, 3rd edition 2019.

iii. Recommended books

- Biswas Gautam (2021): Review of Forensic Medicine & Toxicology. 5th ed. Jaypee Brothers Medical Pub.

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. Ghada Omran**	- **Head of the Department: Prof. Randa Hussein Abdelhady**
Date: 17-4-2022	**Date: 17-4-2022**

Course 4 Anatomy 1 (Science of growth and anthropology and comparative anatomy)

- **Name of the department: Anatomy**
- **Faculty of medicine**
- **Assiut University**
- **2022-2023**

1. Course data

- **Course Title: Anatomy 1 (Science of growth and anthropology and comparative anatomy)**
- **Course code: ANA301A**
- **Specialty :Anatomy**
- **Number of credit points:7 credit point**
- **Department (s) delivering the course: Department of anatomy.**

- **Coordinator (s):**
  - **Course coordinator:**
    Prof. Dr. Refaat Shehata
  - **Assistant coordinator (s)**
    Prof. Dr. Adel kamel Abdel Malek
    Prof.Dr.Dorreia Abdullah Zagloul
    Prof.Dr Sayed Anwar
    Prof.Dr Mohammed El badry
- **Date last reviewed:July/2022**
- **Requirements (prerequisites) if any :**

None

- **Requirements from the students to achieve course ILOs are clarified in the joining log book.**

2. Course Aims

To acquire indepth Background of science of growth and anthropology and comparative anatomy necessary for Anatomy

3. Course intended learning outcomes (ILOs):

A-Knowledge and understanding

3. Unit intended learning outcomes (ILOs):

A- Knowledge and understanding

ILOs	**Methods of teaching/ learning**	***Methods of Evaluation***
A. Describe details of • Definition and factors which control growth • Pattern of growth • Developmental ages • Stages of life cycle • Evolution of man and its theories • General features of primates • Stages of anthropogenesis • Human variation and races • Comparative anatomy in hand and vertebral column	-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 (science of growth and anthropology and comparative anatomy) supportive sciences which are appropriate to Anatomy 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 science of growth and anthropology and comparative anatomy.		

C- Practical skills

Practical: 0 credit point

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	Oral exam Logbook

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 -Chick list Oral exam

Professionalism

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

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	Intellectual	Practical skill	General Skills
Definition and factors which control growth	A	A-B	-	A-D
Pattern of growth	A	A-B	-	A-D
Developmental ages	A	A-B	-	A-D
Stages of life cycle	A	A-B	-	A-D
Evolution of man and its theories	A	A-B	-	A-D
General features of primates	A	A-B	-	A-D
Stages of anthropogenesis	A	A-B	-	A-D
Human variation and races	A	A-B	-	A-D
Comparative anatomy in hand and vertebral column	A	A-B	-	A-D

5. Methods of teaching/learning:

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

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

1. Extra didactic (lectures, seminars, tutorial)

7. Assessment methods:

i. Assessment tools:

1. Oral examination
2. Written examination
3. Logbook

i. **Time schedule:** At the end of first part
ii. **iii. Marks:** 350

8. List of references

i. Lectures notes

- Course notes
- Staff members print out of lectures

iii. Essential books

Gray's anatomy 42nd ed(2020)

iv. Recommended books

- Comparative anatomy of the vertebrates,1999.
- Comparative skeletal anatomy,2008.
- Exploring Biological Anthropology:The Essentials. Craig Britton Stanford, John Scott Allen, Susan C. Antón,2013

iv. Periodicals, Web sites, … etc

Annual review of anthropology
Anthropologica
www.abdn.ac.uk:8080/anthropology/

v. Others

- **None**

9. Signatures

Course Coordinator: Prof Dr Adel Kamel	**Head Of The Department: Prof Dr Hoda Ahmed**
Date: ……..	**Date:……..**

Course 5 Anatomy 2 (Basic Anatomy, Embryology and Neuroanatomy)

Name of department: ***Department of Anatomy:***

- **Faculty of medicine**
- **Assiut University**

2022-2023

I. Course data

- **Course Title: Anatomy 2 (Basic Anatomy, Embryology and Neuroanatomy)**
- **Course code:ANA301B**
- **Specialty Anatomy**
- **Number of credit points: Didactic 24, (22.4 %), practical 83 (77.6 %), total 107 CP**
- **Department delivering the course: Department of anatomy**

- **Coordinator (s):**
  - **Principle coordinator: Dr. Faten Yousseif Mahmoud.**
  - **-Assistant coordinator (s) Dr. Rheneah Refaat Boushra**

  - **Date last reviewed: July 2022**
- **Requirements (prerequisites) if any :**

None

Requirements from the students to achieve Unit ILOs are clarified in the joining log book.

- **This course consists of 3 Units(Modules)**

Unit 1: Basic Anatomy
Unit 2: Advanced Neuroanatomy
Unit 3 : Advanced Embryology

Unit Coordinator (s):

Unit	Principle Coordinator	Assistant coordinators
Unit 1: Basic Anatomy	Prof. Dr.Mohammed El Badry	Prof. Dr. Sayed Anwar Sayed Hassan Prof. Dr. Dorriea Abd Allah Zagloul Dr.Rheneah Refaat
Unit 2: Advanced Neuroanatomy	Prof Dr. Adel Kamel	Prof Dr.Faten Youssif Mahmoud Dr.Hala Zein El Abedeen Dr. Tarek Mostafa
Unit 3 : Advanced Embryology	Prof. Dr. Refaat Shehata Mohammed	Prof Dr Ahmed Talaat Prof Dr. Hoda Ahmed Mohammed. Dr. Wafaa Alaa

Name of department: ***Department of Anatomy:***

- **Faculty of medicine**
- **Assiut University**

2022-2023

2. Course Aims

1. To enable candidates to master high level of practical skills, in addition to update and advanced knowledge and professional competence in the area of Basic Anatomy , Advanced Neuroanatomy and Advanced Embryology including anatomy of different parts of the human body, the structure and ultrastructure of different systems, detailed steps of the embryo formation and the development of different systems and its anomalies, detailed structure of the nervous system and its connections and background about applied anatomy
2. To provide candidates with enough general skills related to Anatomy including, writing specialized reports, use of information technology in research and teaching junior students

3. Course intended learning outcomes (ILOs):

Course 5 Unit 1 Basic Anatomy

A-Knowledge and understanding

ILOs	Methods of teaching/ Learning	*Methods of Evaluation*
A. Describe different clinical conditions and diseases related to Anatomy.		
B. Mention the details of different diagnostic tools of diseases Anatomy.		
C. State update and evidence based Knowledge related to the course: Anatomic Principles/details of Upper limbs ,lower limbs, thorax, abdomen, pelvis, head and neck.	Lectures -Practical teaching -seminars	Written exam -Oral exam -Practical exam
D. Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to specialty including:		
E. Mention the basic ethical and medico legal principles revenant to the Anatomy.		
F. Explain the basics of quality assurance to ensure good professional skills in his field.		
G. Mention the ethical and scientific principles of medical research		
H. Explain the impact of common heath problems in the field of anatomy on the society.		

B-Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
A. Design / present case , seminars in common problem related to Basic anatomy	Lectures -Practical teaching -seminars	Written exam -Oral exam -Practical exam

B. Apply the basic and clinically supportive sciences which are appropriate to the specialty related conditions / problem / topics.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Basic anatomy		
D. Conduct or share in research projects.		
E. Write scientific papers.		
F. Participate in the management of risky conditions related to Basic anatomy.		
G. Plan for quality improvement in the field of medical education and professional practice in Basic anatomy.		
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 alternativ decisions in different situations in the field of the Anatomy.		

C-Practical skills

ILOs	Methods of teaching/ Learning	Methods of Evaluation
A. Perform the following basic lab skills essential to the anatomy: Preparation of museum specimens	Lectures -Practical teaching -seminars	Written exam -Oral and Practical exam
B. Perform advanced lab skills essential to the anatomy.		
C. Use instruments and devices		
D. Interpret non invasive/invasive procedures/ experiments		
E. Perform non invasive/invasive procedures/ experiments		
F. Develop and carry out management plans for performing experiments related to Anatomy.		
G. Counsel and educate students, technicians and junior staff, in the dissecting room about conditions related to anatomy; including handling of samples, devices, safety and maintenance of laboratory equipments.		
H. Use information technology to support patient care decisions and patient education for Basic anatomy related conditions.		
I. Provide health care services aimed at preventing dissection related problems		
J. Work with health care professionals, including those from other disciplines.		
K. Write competently all forms of professional reports related to the anatomy (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)	-Observation and supervision -Written & oral communication	-Log book
B. Locate, appraises, and assimilates evidence from scientific studies related to health problems.		
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; and support their own education		
E. Lead the learning of students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ Learning	Methods of Evaluation
F. Create and sustain a therapeutic and ethically sound relationship with patients	-Observation and supervision -Written & oral communication	-Log book
G. Perform the oral communications related to anatomy		
H. Fill the following reports: Reports on various anatomical specimens		
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 patients and society that supersedes self-interest.	Observation and supervision	1. Objective structured Practical examination
K. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		1. 360o global rating
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 different health care delivery settings and systems.	Observation and supervision	1. 360o global rating
N. Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
O. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating
P. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

Course 5 Unit 2 Neuroanatomy

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe different clinical conditions and diseases related to Neuroanatomy.	-Lectures -Practical teaching -seminars	-Written exam -Oral exam -Practical exam
B. Mention the details of different diagnostic tools of diseases Neuroanatomy.		
C. State update and evidence based Knowledge related to the course: the detailed structure of the nervous system and its connections with the various parts of the body.		
D. Mention the basic ethical and medico legal principles revenant to the Neuroanatomy.		
E. Explain the basics of quality assurance to ensure good professional skills in his field.		
F. Mention the ethical and scientific principles of medical research		

B-Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
A. Design / present case , seminars in common problem related to Neuroanatomy	-Lectures -Practical teaching -seminars	-Written exam -Oral exam -Practical exam
B. Apply the basic and clinically supportive sciences which are appropriate to the Neuroanatomy related conditions / problem / topics.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to		

clinical situation related to Neuroanatomy.		
D. Conduct or share in research projects.		
E. Write scientific papers.		
F. Participate in the management of risky conditions related to Neuroanatomy.		
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		

C-Practical skills

ILOs	Methods of teaching/ Learning	Methods of Evaluation
A. Perform the following basic lab skills essential to the unit: Preparation of slides of Neuroanatomy	-Lectures -Practical teaching -seminars	Written exam -Oral exam -Practical exam
B. Perform the advanced lab skills essential to the Neuroanatomy		
C. Use instruments and devices related Neuroanatomy		
D. Use information technology to support patient care decisions and patient education for related Neuroanatomy conditions.		
E. Work with health care professionals, including those from other disciplines, to provide patient-focused care.		

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).	-Lectures -Practical teaching -seminars	Written exam -Oral exam -Practical exam

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
B. Create and sustain a therapeutic and ethically sound relationship with patients	-Observation and supervision -Written & oral communication	-Log book
C. Work effectively with others as a member or leader of a health care team.		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
D. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation and supervision	1. Objective structured practical examination
E. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		1. 360o global rating
F. Demonstrate sensitivity and responsiveness to others' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
G. Work effectively in different health care delivery settings and systems.	-Observation and supervision	1. 360o global rating
H. Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
I. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating
J. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

Course 5 Unit 3 Advanced Embryology

A-Knowledge and understanding

ILOs	Methods of teaching/ learning	*Methods of Evaluation*
A. Describe different clinical conditions and diseases related to Embryology.	-Lectures -Practical teaching -seminars	Written exam -Oral exam -Practical exam
B. Mention the details of different diagnostic tools of diseases Embryology.		
C. State update and evidence based Knowledge related to Embryology. Know the detailed steps of the embryo formation and the development of the various system of the body and their anomalies.		
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		

B-Intellectual outcomes

ILOs	Methods of teaching/ Learning	Methods of Evaluation
A. Design / present case , seminars in common problem related to development of various organs	-Lectures -Practical teaching -seminars	Written exam -Oral exam -Practical exam
B. Apply the basic and clinically supportive sciences which are appropriate to the		

specialty related conditions / problem / topics.		
C. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Embryology.		
D. Conduct or share in research projects.		
E. Write scientific papers.		
F. Participate in the management of risky conditions related to Embryology.		
G. Plan for quality improvement in the field of medical education and professional practice in Embryology.		
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		

C-Practical skills

ILOs	Methods of teaching/ Learning	Methods of Evaluation
A. Perform the following basic lab skills essential to the course: preparation of slides of embryology	-Observation and supervision	-Log book
B. Perform the advanced lab skills essential to the embryology.		
C. Work with health care professionals, including those from other disciplines, to provide patient-focused care .		

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)	Lectures -Practical teaching -seminars	-Written exam -Oral exam -Practical exam
B. Locate, appraises, and assimilates evidence from scientific studies related to health problems.		
C. Use information technology to support decisions in common situations related to Embryology.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
D. Create and sustain a therapeutic and ethically sound relationship with patients	-Observation and supervision -Written & oral communication	-Log book
E. Work effectively with others as a member or leader of a health care team.		

Professionalism

ILOs	Methods of teaching/ Learning	Methods of Evaluation
F. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest.	- Observation and supervision	1. Objective structured practical examination
G. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.		1. 360o global rating
H. Demonstrate sensitivity and responsiveness to others' culture, age, gender, and disabilities		

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
I. Work effectively in different health care delivery settings and systems.	-Observation and supervision	1. 360o global rating
J. Practice cost-effective health care and resource allocation that does not compromise quality of care		1. Check list evaluation of live or recorded performance
K. Advocate for quality patient care and assist patients in dealing with system complexities		1. 360o global rating

L. Partner with health care managers and health care providers to assess, coordinate, and improve health care and predict how these activities can affect system performance		

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

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	**Intellectual**	**Practical skill**	**General Skills**
Unit 1: Basic Anatomy				
1. Anatomy of the upper limb bones and muscles which include : • axilla and pectoral regions • anatomy of the back • anatomy of arm • anatomy of forearm • anatomy of the hand	A-H	A-J	A-K	A-P
2. Anatomy of the lower limb which include: • bones and muscles • nerves and vessels • Joints femoral sheath and hernia	A-H	A-J	A-K	A-P
3. Anatomy of the thorax which include : • bony thorax • Thoracic wall • Anatomy of the	A-H	A-J	A-K	A-P

mediastinum • Anatomy of the heart and pericardium. • Anatomy of the lung and pleura. • Anatomy of joints and lymphatic drainage of the thorax.				
4. Anatomy of the abdomen which include: • Anatomy of anterior abdominal wall. • Anatomy of inguinal regions and hernia. • Anatomy of external genitalia. • Anatomy of peritoneum. • Anatomy of different abdominal organs . • Anatomy ofposterior abdominal wall.	A-H	A-J	A-K	A-P
5. Anatomy of the pelvis which include : • bony pelvis . • Arrangement of pelvic viscera in male and female . • Anatomy of pelvic organs. • Anatomy of nerves and vessels and muscles in pelvis . • joints of pelvis . • Anatomy of perineum.	A-H	A-J	A-J	A-P
6. Anatomy of Head and Neck which include: • Anatomy of the scalp.	A-H	A-J	A-K	A-P

• Anatomy of the face. • Cranial cavity, dural folds and venous sinuses. • orbit • Triangles of the neck. • Anatomy of infratemporal fossa. • Submandibular region • Thyroid gland • Mouth cavity • Pharynx • larynx • Autonomic nerve supply of the Head and Neck. • Great vessels and cranial nerves. • Anatomy of the ear. • Anatomy of the mouth.				
Unit 2: Advanced Neuroanatomy				
Anatomy of the brain .	A-F	A-I	A-E	A-J
-Anatomy of cerebellum	A-F	A-I	A-E	A-J
-Anatomy of the spinal cord	A-F	A-I	A-E	A-J
Anatomy and connection and function of the diencephalon	A-F	A-I	A-E	A-J
Anatomy and connection and function of the basal ganglia.	A-F	A-I	A-E	A-J
Anatomy of the cranial nerves	A-F	A-I	A-E	A-J
Anatomy of autonomic nervous system.	A-F	A-I	A-E	A-J
Anatomy of the limbic system	A-F	A-I	A-E	A-J
-Tractology.	A-F	A-I	A-E	A-J

Unit 3: Advanced Embryology				
1-Development of male and female gamets	A-E	A-I	A-C	A-L
2-Fertilization, cleavage, and, implantation	B	D	A	A-L
3-Development of the embryonic disc	D	D	A-B	A-L
4-Fate of germ layers	A	C	B	A-L
5-Fetal membranes.	B	A	C	A-L
6- Development of special systems. a-Development of Cardiovascular system	A	B	C	A-L
b-Development of Digestive system	B	C	A	A-L
c-Development of Respiratory system	C	A	B	A-L
d-Development of Urinary system	D	D	A&C	A-L
e-Development of Genital system	A	A	B	A-L
f-Development of Central nervous system	A	A	B	A-L
g-Development of Face and palate	B	A	C	A-L
h-Development of The eye	C	A	A	A-L
i-Development of The ear	D	B	A	A-L
j-Development of Skin and mammary gland	A	B	C	A-L A-L
k-Development of Endocrine glands	A	A	B	A-L
l-Development of Musculoskeletal system	A	B	C	A-L
m-Development of Septum transversum and diaphragm	B	A	C	A-L

5. Methods of teaching/learning:

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

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

1. Extra didactic (lectures, seminars, tutorial)
2. Extra training

7. Assessment methods:

v. i. Assessment tools: practical examination
Oral examination
Written examination

ii. Time schedule: At the end of the second part

iii. Marks: 1200 degrees

8. List of references

i. Lectures notes

- Department lecture notes

ii. Essential books

- Gray's Anatomy 42nd ed. (2020)
- Clinical Anatomy for Medical Students, R.S. Snell 10th ed(2019)
- Cunningham's manual of practical anatomy 15th ed.
- Human Embryology**.** Hamilton, W. J. and Mossman, H.W 4th ed.
- Moore's Clinically Oriented Anatomy 9th ed
- Clinical neuroanatomy R.S. Snell 8th ed

iii. Recommended books

- Last's Anatomy 12th ed(2011)
- Grant's Method of Anatomy. 2021
- Grant's Atlas of Anatomy 15th (2021)

- Langman's medical embryology 14th ed(2019)
- Basic clinical neuroscience 3rd ed(2015).
-

iv. Periodicals, Web sites, … etc

- Anatomical records.
- American journal of anatomy.
- www.ncbi.nlm.nih.gov/pmc/journals/265.
- www.visembryo.com/baby/index.html
- Neuroscience.
-

9. Signatures

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

Annex 2,
Program Academic Standards

ANNEX 2
Program Academic Reference Standards (ARS)

1- Graduate attributes for medical doctorate in Anatomy

***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 chosen field of Anatomy.

2- Have continuous ability to add knowledge to the Anatomy 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 Anatomy.

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

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 his 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 the Anatomy or one of its subspecialties.

15- Use recent technologies to improve his practice in the speciality field.

16- Share in updating and improving practical practice in the Anatomy field.

2- Competency based Standards for medical doctorate in Anatomy

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 Anatomy 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 Anatomy field.

2-1-D- Principles and measurements of quality in the Anatomy 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 specialty related problems.

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

2-2-C- Involvement in research studies related to the specialty.

2-2-D- Writing scientific papers.

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

2-2-F- Planning for performance improvement in the specialty field.

2-2-G- Creation and innovation in the Anatomy field.

2-2-H- Evidence – based discussion.

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

2.3- Clinical skills/Practical skills

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

- ***Competency-based outcomes for Patient Care:-***

2-3-A- Provide extensive level of practical and or laboratory services that can help patient 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 his field of practice.

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

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

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 his 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 patients, their families, technicians and 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, and sensitivity to a diverse patient population.

- ***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 5 contains evaluation templates and reports (Joined in the departmental folder).

Annex 6, Program Correlations:

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

I-General Academic reference standards (GARS) for postgraduates versus Program ARS *for MD degree in* ANATOMY

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

independently all problems in these areas.	
6- Identify and create solutions for health problems related to his Anatomy.	6-تحديد المشكلات المهنية و إيجاد حلولا مبتكرة لحلها
5- Function as a leader of a team to provide appropriate, effective and compassionate reaction when dealing with problems related to Anatomy. 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.	7-إتقان نطاقا واسعا من المهارات المهنية في مجال اتخصص

1- Graduate attributes (Continuous)

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
16- Share in updating and improving practical practice in the anatomy field. 9- Function as teacher in relation to colleagues, medical students and other health professions.	8- التوجه نحو تطوير طرق و أدوات و أساليب جديدة للمزاولة المهنية
15- Use recent technologies to improve his practice in the anatomy field.	9-استخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية
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 anatomy	10-التواصل بفاعلية و قيادة فريق عمل في سياقات مهنية مختلفة
10- Master decision making capabilities in different situations related to anatomy practice.	11-اتخاذ القرار في ظل المعلومات المتاحة
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.	12-توظيف الموارد المتاحة بكفاءة و تنميتها والعمل على إيجاد موارد جديدة
12- Demonstrate in depth awareness of public health	13-الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة

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

2- Academic standards

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

situations related to the anatomy field.	سياقات مهنية مختلفة
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 anatomy practice. 2.3. B- Master practical / laboratory skills relevant to anatomy.	2-3-أ -إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص
2.3. C- Write and evaluate reports for situations related to the anatomy.	2-3-ب- كتابة و تقييم التقارير المهنية.

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

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
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-ج -تقييم و تطوير الطرق و الأدوات القائمة في مجال التخصص
2.4. B- Use competently all information sources and technology to improve anatomy practice.	2-3-د – استخدام الوسائل التكنولوجية بما يخدم الممارسة المهنية
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.	2-3-هـ -التخطيط لتطوير الممارسة المهنية وتنمية أداء الآخرين

2- Academic standards (Continues)

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

Comparison between ARS and ILOS for master degree in Anatomy

(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 anatomy 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 Anatomy as well as the evidence – based application of this knowledge to anatomy 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 anatomy field.	**2-1-C-** Mention ethical, medico logical principles and bylaws relevant to anatomy practice.
2-1-D- Principles and measurements of quality in anatomy field.	**2-1-D-** Mention principles and measurements of quality assurance and quality improvement in medical education and in anatomy 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 anatomy 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 anatomy related problems.	**2-2-A-** Apply the basic and clinically supportive sciences which are appropriate to the anatomy 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 anatomy.
2-2-C- Involvement in research studies related to the anatomy	**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 anatomy field.	**2-2-F-** Plan for quality improvement in the field of medical education and practice in anatomy.
2-2-G-Creation and innovation in the anatomy field.	**2-2-G-** Create / innovate plans, systems, and other issues for improvement of performance in anatomy 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 anatomy field.	**2-2-I-** Formulate management plans and alternative decisions in different situations in the field of the anatomy

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-B-** Master practical/laboratory skills relevant to anatomy	**2-3-1-A**- Master practical skills relevant to anatomy 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. **2-3-1-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 anatomy including usage of different stains. **2-3-1-F-** Develop and carry out diagnostic and teaching plans for all anatomy skills including slide projector, data show and monitors. **2-3-1-G-** Use information technology to support practical decisions and students education in all anatomy practice including power point presentations. **2-3-1-I-** Lead other professionals, including those from other disciplines, to provide practical/laboratory-focused care in anatomy related conditions including.

2-3-C- Write and evaluate reports for situations related to the anatomy	**2-3-1-J-** Write competently all forms of professional reports related to the anatomy (lab reports, experiments reports,) including reports evaluating these charts and sheets.
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 anatomy 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 anatomy practice.	**2-3-2-I-** Apply knowledge of study designs and statistical methods to the appraisal of anatomy 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 and teaming with other health professionals.	**2-3-2-K-** Master interpersonal and communication skills that result in the effective exchange of 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 anatomy 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 anatomy 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: Anatomy 1(science of growth and anthropology and comparative anatomy)	✓				
Course 5:Anatomy 2(basic anatomy, advanced embryology and advanced neuroanatomy)	✓	✓	✓	✓	✓

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: Anatomy 1(science of growth and anthropology and comparative anatomy)	✓	✓							
Course 5:Anatomy 2(basic anatomy, advanced embryology and advanced neuroanatomy)	✓	✓	✓	✓	✓	✓	✓	✓	✓

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: Anatomy 1(science of growth and anthropology and comparative anatomy)										
Course 5:Anatomy 2(basic anatomy, advanced embryology and advanced neuroanatomy)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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: Anatomy 1(science of growth and anthropology and comparative anatomy)									
Course 5:Anatomy 2(basic anatomy, advanced embryology and advanced neuroanatomy)	✓	✓	✓	✓	✓	✓	✓	✓	✓

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: Anatomy 1(science of growth and anthropology and comparative anatomy)	✓	✓				✓	
Course 5:Anatomy 2(basic anatomy, advanced embryology and advanced neuroanatomy)	✓	✓	✓	✓	✓	✓	✓

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: Anatomy 1(science of growth and anthropology and comparative anatomy)		✓				
Course 5:Anatomy 2(basic anatomy, advanced embryology and advanced neuroanatomy)	✓	✓	✓	✓	✓	✓

Annex 7, Additional information:

Department information:

-Research laboratory
-Microscopy room
-Ultramicrotome unit
-Museum including specimens in all specialties .

Staff members:

Head of the Department: Prof.Dr. Hoda Ahmed Mohamed Abdel-Aziz
Emeritus Prof. Dr.Refaat Shehata
Emeritus Professor/Adel Kamel Abdel-Malek Mikhail
Emeritus Professor/Ahmed Talaat Jalal Ahmed Abdel-Moty
Emeritus Professor/Sayed Anwar Sayed Hassan
Emeritus Professor/Mohammed El Badry
Professor/Dorria Abdullah Mohamed Zaghloul
Professor/Fatin Yousef Mahmoud Mohamed
Prof . /Heba Kamal Mohamed Soliman
Prof /Rasha Ibrahim Mohamed Anwar Ibrahim
Prof/Wafa Alaa El-Din Mubarak Abdel-Rahman Assistant Professor/Ayman Salah El-Din Amer Younes
Assistant Prof /Tarek Mohamed Mostafa Hamdan
Assistant Prof /Hazim Abdel-Hamid Mohamed Sayed Elshear
Assistant Prof /Mohamed Hashem Mohamed Hussein Assistant
Assistant Prof /Amal Rateb Abdel-Sameea Paddy
Assistant Prof /Hala Zin El Abidine Mohamed Radwan
Assistant Prof /Reneah Refaat Bushra Tadros
Lecturer/Hala Mahmoud Zarif Amin Attia
Lecturer/Heidi Rifat Mohamed Ahmed
Lecturer/Gabriel Abdullah Mikhail
Lecturer/Amany Refaat Abdel-Hamid Mahmoud

Lecturer/Merry Beniamen Kostandi
Lecturer/Ashraf Edward Bastors Beshara
Lecturer /Noha Ahmed Rashid Radwan
Lecturer /Omnia Ibrahim Mohammed Ismail
Lecturer / Hala Mohamed Hassanein Mohamed
Lecturer /Sally Sayed Anwar
Assistant Lecturer /Ghada Rady
Assistant Lecturer /Walaa Galal
Assistant Lecturer /Martha Emil
Assistant Lecturer /Doaa Hamed
Assistant Lecturer /Mariam Wahby
Assistant Lecturer /Esraa Khalid
Assistant Lecturer/Raghdaa Alam Eldin Ali
Assistant Lecturer/Marian wagdy
Assistant Lecturer/Amany Radwan Zaki
Assistant Lecturer/Mai Emiel Saber
Demonstrator /Rowida Refaat
Demonstrator/Reham Refaat
Demonstrator/Martina Emad Anwar

Opportunities within the department:

-Embryology museum
-Neuroanatomy museum including plastinated sections and models
-Basic anatomy museum including plastinated specimens and models
-Research lab including immunohistochemistry section
-Microscopy room for examination and photography and morphometry .
-A unit for ultramicrotome for semithin sections preparations

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 specification)