Master (M.Sc.) Degree Program and Courses Specifications for master degree in Anatomy

(According to currently applied Credit point bylaws)

Anatomy department
faculty of medicine
Aswan University
2020-2021

Contents

Master degree of Anatomy

A. Basic Information

- Program Title: Master degree of anatomy
- Nature of the program: Single.
- Responsible Department: Department of anatomy
- Program Academic Director (Head of the Department): Prof Dr sayed anwar sayed
- Total number of courses: 2 courses and 1 elective coarse

B. Professional Information

1- Program aims

I/1 Develop the knowledge of different systems of the body and their congenital anomalies.

1/2 Describe the anatomy of different parts of the human body.

1/3 Acquire background about application of the anatomical information in the clinical field.

1/4 Know the structure of the nervous system and its connection

1/5 Enable candidates to start professional careers as specialists in Egypt but recognized abroad.

1/6 Introduce candidates to the basics of scientific medical research.

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

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

2/1Knowledge and understanding:

A. Explain the essential facts and principles of relevant basic sciences including, basic Neuroanatomy and basic Embryology related to Anatomy.

B. Mention essential facts of clinical supportive sciences including Radiology related to Anatomy.

C. Demonstrate sufficient knowledge of the main subjects including Anatomy, Neuroanatomy and Embryology related to to Anatomy.

D. Give the recent and update developments in the most important themes related to Anatomy.

E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the field of Anatomy.

F. Mention the basics and standards of quality assurance to ensure good practice in the field of Anatomy

G. Mention the ethical and scientific principles of medical research methodology.

H. State the impact of common problems related to the field of speciality on the society and how good practice can improve these problems.

2/2 Intellectual outcomes

A- Correlate the relevant facts of relevant basic and clinically supportive sciences with reasoning, diagnosis and management of common problems of the Anatomy.

B- Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical or practical situations related to Anatomy.

C- Design and /or present a case or review (through seminars/journal clubs.) in one or more of common themes or problems relevant to the Anatomy field.

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

2/3 Skills

2/3/1 Practical skills

A. Demonstrate competently relevant laboratory skills related to Anatomy.
B. Use the up to date technology for the conditions related to Anatomy.
C. Develop plans for performing experiments related to Anatomy.
D. Carry out common experiments related to Anatomy.
E. Counsel and educate students, technicians and junior staff, in the lab about conditions related to speciality; including handling of samples, devices, safety and maintenance of laboratory equipments.
F. Use information technology in some of the situations related to Anatomy.
G. Share in providing health care services aimed supporting patient care, solving health problems and better understanding of the normal structure and function.
H. Write competently all forms of professional reports related to the Anatomy (lab reports, experiments reports,).

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- Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).

B- Appraises evidence from scientific studies.

C- Conduct epidemiological Studies and surveys.

D- Perform data management including data entry and analysis and using information technology to manage information, access on-line medical information; and support their own education.

E- Facilitate learning of students, lab technical staff and other health care professionals including their evaluation and assessment.

Interpersonal and Communication Skills

F- Maintain therapeutic and ethically sound relationship with patients, their families, lab technical staff and other health professionals.

G- Elicit information using effective nonverbal, explanatory, questioning, and writing skills.

H- Provide information using effective nonverbal, explanatory, questioning, and writing skills.

I- Work effectively with others as a member of a team or other professional group.

Professionalism

J- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.

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

L- Demonstrate sensitivity and responsiveness to others culture, age, gender, and disabilities.

Systems-Based Practice

M- Work effectively in relevant academic and health care delivery settings and systems including good administrative and time management.

N- Adopt cost-effective practice and resource allocation that does not compromise quality of services.

O- Assist patients in dealing with system complexities.

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

Academic standards for master degree in a academic *anatomy*

Aswan Faculty of Medicine developed master 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.

4- Program External References (Benchmarks)

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

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

2. Our courses are similar to the MSc course In Dublin university in Ireland that aims at providing a comprehensive knowledge of normal and variant anatomy includng neuroanatomy and embryology , but their course include physical anthropology that is included in our Phd courses. http://www.medicine.tcd.ie/
3. University of Otago in Newzealand. http://www.otago.ac.nz/courses/subjects/anat.html
   They cover functional anatomy, reproductive biology, neurobiology, development biology and biological anthropology

4. Pennsylvania State University College of Medicine
http://www.pennstatehershey.org/web/anatomy
Required Anatomy courses for Maśter s students include:
Gross Human Anatomy, Human Embryology, Human Microscopic Anatomy, and Human Neurobiology.
Our courses include all except microscopic anatomy

5. Program Structure and Contents

A. Duration of program: 3 5 years

B. Structure of the program:
Total number of points: 180 (20 out of them for thesis). Didactic 34 (18.9 %), practical 126 (70 %), thesis 20(11.1). **First part**
Didactic 8 (20%), practical 30 (75 %), elective coarse 2(5%) total 40.
Second part
Didactic 24 (20%) practical 96 (80 %) total
120 Total courses 160 CP
Compulsory courses: 98.9%
Elective course: 2 credit point: 1.1%

	Points	% from total
▪ Basic science courses	18	10%
Humanity and ▪ social courses	2	1.1%
▪ Speciality courses	140	77.8%
▪ Others (Computer, …)	-	-
Field training	-	-
Thesis	20	11.1%

C.Program Time Table

A. Duration of program 3 years maximally 5 years divided into

- **Part 1: (One year)**

Program-related basic science courses and ILOs + elective courses

Students are allowed to sit the exams of these courses after 12 months from applying to the M Sc degree.

One elective course can be set during either the 1st or 2nd parts.

- **Thesis**

For the M Sc thesis;

MSc thesis subject should be officially registered within 6 months from application to the MSc degree,

Discussion and acceptance of the thesis could be set after 12 months from registering the MSc subject;

It should be discussed and accepted before passing the second part of examination)

- **Part 2 (2 years)**

Program–related speciality courses and ILOs

Students are not allowed to sit the exams of these courses before 3 years from applying to the MSc degree.

The students pass if they get 50% from the written exams and 60% from oral and clinical/practical exams of each course and 60% of summation of the written exams, oral and clinical/practical exams of each course

Total degrees 1600
marks. 400 marks for
first part 1200 for
second part Written
exam 40% - 70%.
Practical and oral exams 30% - 60%.

D. Curriculum Structure: (Courses):

- **courses of the program:**

Modules/ Units delivering courses and student work load list	Course Code	Core Credit points		
		Didactics	training	total
First Part				
Basic science courses (one of these 2 courses) **Basic Embryology** **Or** **Basic Neuroanatomy**	**ANA201A** **ANA201B**			
Elective courses*	2CP			
Practical training and scientific activities				
A. Practical training in compulsory academic Basic science courses (10 CP)	ANA201A or ANA201B		10	
B. Practical training in Speciality course (20 CP)	ANA201C		20	
Total of the first part		10	30	40
Second Part	Speciality courses Speciality practical Work			
Speciality Courses (Advanced Anatomy) Unit 1: Basic anatomy Unit 2: Advanced Neuroanatomy. Unit 3: Advanced Embryology	ANA201C	24		24
Training and practical activities in Anatomy(96 CP)	ANA201C		96	96
Total of the second part		24	96	**120**
Thesis	20			
Total of the degree	180			

Didactic (lectures, seminars, tutorial)

* Elective courses can be taken during either the 1 t 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#:

- Medical statistics.
- Evidence based medicine.
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research
- Quality assurance of medical education
- Quality assurance of clinical practice.
- Hospital management

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

Thesis:
20 CP are appointed to the completion and acceptance of the thesis.

Anatomy course

Units' Titles' list	% from total	Level (Year)	Core Credit points		
			Didactic	training	Total
Unit 1: Basic Anatomy	**50%**	**1,2,3**	**12**	**58**	**70**
Unit 2: Advanced Neuroanatomy	**25%**	**1,2,3**	**6**	**29**	**35**
Unit 3: Advanced Embryology	**25%**	**1,2,3**	**6**	**29**	**35**
			24	**116**	**140**

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:
    a. MBBCh Degree from any Egyptian Faculties of Medicine
    b. Equivalent Degree from medical schools abroad approved by the Ministry of Higher Education
    c. One year appointment within responsible department (for non Aswan University based registrars)
  II. Specific Requirements:
    - Fluent in English (study language)

VACATIONS AND STUDY LEAVE

The current departmental policy is 2 weeks before examination.

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 could be set at 12 months from registering to the MSc degree.
- Examination of the second part cannot be set before 3 years from registering to the degree.
- Discussion of the MSc thesis could be set after 1 year from officially registering the MSc subject before setting the second part exams.
- The minimum duration of the program is 3 years.

The students are offered the degree when:

1. Passing the exams of all basic science, elective and speciality 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 MSc thesis.

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			
First Part	**Course code**	**Written Exam**	**Oral Exam**	**Practical / Exam**	**Total**
Basic science courses:					
Basic Embryology X **OR**	ANA201A	200	100	100	400
Basic Neuroanatomy	ANA201B	200	100	100	400
Second Part					
Speciality Course :Advanced anatomy	ANA201C	600	300	300	1200
-Advanced anatomy Paper 1		150			
-Advanced anatomy Paper 2		150			
-Advanced Neuroanatomy		150			
-Advanced Embryology		150			
Total		600	300	300	1200
Elective course		50	50		100

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

***Advanced Anatomy Course**

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	**25%**	150			300
Neuroanatomy Unit 3:	**25%**	150	75	75	300
Advanced Embryology			75	75	
Total No. of Units (Modules):	**3**	600	300	300	1200

* 25% of the oral exam for assessment of logbook

400 marks for first part 1200for second part

Written exam 50 % (600 marks).

Practical and oral exams 50 % (600 marks)
Elective course 100

- Examination system:

6 First part:

- Written exam two papers 2 hours each in Basic Embryology or Basic Neuroanatomy+ Oral exam +Practical exam

& Second part:
Written exam four papers 3 hours for each in Advanced Anatomy (Advanced Anatomy paper 1, Advanced Anatomy paper 2, Paper 3 Advanced embryology and Paper 4 Advanced neuroanatomy)+ Oral exam+ practical exam
6 Elective courses

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

10-Program evaluation
#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.

Annex 1, Specifications for Courses / Modules

Annex 1: specifications for courses

Course 1 Basic Course of Embryology

Name of department: *Department of Anatomy.*
Faculty of medicine
Aswan University

I. Course data

- Course Title: Basic Embryology.
- Course code: ANA201A
- Speciality: Anatomy

- **Number of credit points: Didactic 8 (44.4%) practical 10 (55.6%)total 18**

- Department (s) delivering the course: Department of anatomy and emberiology
- Coordinator (s):
  -Course coordinator: Prof. Dr. Sayed Anwar Sayed
- General requirements (prerequisites) if any : none
- Requirements from the students to achieve course lLOs are clarified in the joining log book.

2. Course Aims

1-To acquire the detailed steps of the embryo formation and the development of different systems and its anomalies.
2-Acquire background about applied embryology.

3. Course intended learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A. Describe common clinical conditions and diseases related to Basic embryology.	Lectures. - Practical teaching . -Seminars.	Written exam. -Oral exam. Practical Exam
B. Mention the following factual basics and principles essential to embryology.	Lectures. - Practical teaching . -Seminars.	Written exam. -Oral exam. Practical Exam
C. State update and evidence based Knowledge related to the course: Principles of Formation of the embryo and development of different system of the body and their congenital Anomalies	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	Lectures.	Written exam.

speciality including: Teratology		
E. Mention the basic ethical and medicolegal principles revenant to the embryology	Lectures.	
F. Mention the basics of quality assurance to ensure good professional skills in his field.	Lectures.	
G. Mention the ethical and scientific principles of medical research	Lectures.	

C. Intellectual outcomes

ILOs	***Methods of teaching/ learning***	***Methods of Evaluation***
A. Correlates the facts of relevant basic and clinically supportive sciences with conditions and diseases of relevance to 1 -The detailed steps of the embryo formation and the development of different systems and its anomalies. 2-Acquire background about applied anatomy.	Lectures. - Practical teaching . -Seminars.	-Written exam. -Oral exam. Practical Exam
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to conditions relevance to embryology	Lectures. - Practical teaching . -Seminars	Written exam. -Oral exam. Practical Exam

C. Design and present audits, cases, seminars in common problems related to embryology.	Lectures. - Practical teaching . -Seminars	Written exam. -Oral exam. Practical Exam

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform the following basic lab skills essential to the course; Preparation of specimens and slides	Lectures. - Practical teaching . -Seminars.	-Written exam. -Oral exam. Practical Exam
B. Interpret non-invasive/invasive procedures/ experiments Reports on embryology specimens	-	Log book
C. Perform the following noninvasive/invasive procedures/ experiments Specimens and slides on embryology	-	Log book
D. Write and evaluate of the following reports: Reports on congenital anomalies	Lectures. - Practical teaching . -Seminars.	Practical Exam
E. Perform the following basic experiments in related basic sciences to be utilized in the research work: Electron and immunohistochemistry	Lectures. - Practical teaching . -Seminars.	Written exam. -Oral exam. Practical Exam
F. Use information technology to support decisions in common situations related to basic embryology		

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;	-Observation and	- Oral Exam - Logbook

and support their own education.	supervision -Written & oral communicatio n	
B. Facilitate learning of junior students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods o f teaching/ learning	Methods of Evaluation
C. Write a report in embryological specimens	-Observation and supervision -Written & oral communicatio n	- Oral Exam - Logbook - Check list

Professionalism

ILOs	Methods of teachin g/ learning	Methods of Evaluation
D. Demonstrat e principles. a commitment to ethical	-Observation -Senior staff experience	- Oral Exam - Logbook

Systems-Based Practice

ILOs	Methods of teachin g/	Methods of Evaluation

	learning	
E. Work effectively in relevant 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
Development of male and female gametes	A-B-D-G	A-C	A-F	A-E
Fertilization ,cleavage, and ,implantation.	A-B-C	A		A-C
Development of the embryonic discs-Fate of germ layers	A-B-D-G	A-C		A
Fetal membranes.	A-B-C	A		A
Growth of embryo and fetus Abnormal development and twinning	A-B-C	A		A
Development of special systems: Development of Cardiovascular system	A-B-C	A		A
Development of Digestive system	A-B-C	A		
Development of Respiratory system	A-B-C	A		A
Development of Urinary system	A-B-C	A		A
Development of the nervous system	A-B-C	A		A

Development of Genital system	A-B-C	A		A
Development of branchial arches,face and palate	A-B-C	A		A

Development of Skin and mammary gland	A-B-C	A		
Development of integumentry system	A-B-C.	A		A
Development of Musculoskeletal system	A-B-C	A		A
Development of Septum transversum and diaphragm	A-B-C	A		A

5. Course Methods of teaching/learning:

1- Lectures.

2- Seminars.

3- Practical teaching

4- Observation and supervision

5- Written & oral communication 6- Senior staff experience

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

1. Extra didactic (lectures, seminars, tutorial)
2. Extra Practical teaching

7. Course assessment methods:

i. Assessment tools: Practical examination
Oral examination
Written examination
Logbook

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

iii. Marks: 400

8. List of references

i. Lectures notes

- Staff members print out of lectures

ii. Essential books

Human Embryology. Hamilton, W. J. and Mossman,

H.W 2005, 4th ed.

-Langman's medical embryology 11th ed.2010

iii. Recommended books

Clinical Embryology,R.S. Snell 3rd **edition** (March 1983**)**

iv. Periodicals, Web sites, … etc

- www.visembryo.com
- www.indiana.edu/anat550/embryo_main/index

Course 2- **Basic Course of Neuroanatomy**

Name of department: Department of Anatomy

- Faculty of medicine
- Aswan University

1. Course data

- Course Title: Basic Course of Neuroanatomy.

- Course code: ANA201B
- Speciality: Anatomy
- Number of credit points: Didactic 8 (44.4%) practical 10 (55.6%)total 18
- Department (s) delivering the course: Department of Anatomy.

- Coordinator (s):

Course coordinator: Prof. Dr. sayed anwar

- General requirements (prerequisites) if any:

  none

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

2. Course Aims

1-Acquire background about applied neuroanatomy
2 Acquire the detailed structure of the nervous system and its connections

3. Course intended learning outcomes (ILOs):

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A. Describe common clinical conditions and diseases related to neuroanatomy	Seminars. Practical teaching. -Lectures.	Written exam. -Oral exam. -Practical exam.
B. Mention the following factual basics and principles related to Nervous system and its connection.	- Seminars . Practical teaching. -Lectures.	Written exam. -Oral exam. -Practical exam.
C. State update and evidence based Knowledge related to the course: Nervous system and its connection.	- Seminars . Practical teaching. -Lectures	Written exam. -Oral exam. -Practical exam.
D. Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to speciality including: Nervous system and its connection**.**	- Seminars . Practical teaching. -Lectures.	Written exam. -Oral exam. -Practical exam.

E. Mention the basic ethical and medicolegal principles revenant to the neuroanatomy.	Seminar s. Practical teaching . -Lectures	Written exam. -Oral exam. -Practical exam.
F. Mention the basics of quality assurance to ensure good	Seminars. Practical	Written exam. -Oral exam.

professional skills in his field.	teaching. -Lectures	-Practical exam.
G. Mention the ethical and scientific principles of medical research	Seminars. Practical teaching. -Lectures	Written exam. -Oral exam. -Practical exam

B. Intellectual outcomes

ILOs	***Methods of teaching/ learning***	***Methods of Evaluation***
A- Correlates the facts of relevant basic and clinically supportive sciences with conditions and diseases of relevance to neuroanatomy	-Seminars. -- Practical teaching. -Lectures.	-Written exam. -Oral exam. -Practical exam.
B- Demonstrate an investigatory and analytic thinking (problem solving) approaches to conditions relevance to neuroanatomy.	-Seminars. -- Practical teaching. -Lectures.	-Written exam. -Oral exam. -Practical exam.
C- Design and present audits, cases, seminars in common problems related to neuroanatomy.	Seminars. -- Practical teaching. -Lectures.	Written exam. -Oral exam. -Practical exam.

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A. Perform the following basic lab skills essential to the course: preparations of specimens and slides	Seminars. -- Practical teaching. -Lectures.	Written exam. -Oral exam. - Practical exam.
B. use instruments and devices in evaluation of slides of neuroanatomy	Seminars. -- Practical teaching. -Lectures.	Written exam. -Oral exam. -Practical exam.
C. Interpret non invasive/invasive procedures/ experiments Neurological specimens		Log book
D- Write and evaluate of the following reports: On neurological specimens	Practical teaching.	Written exam. -Oral exam. - Practical exam.
E- Perform the following basic experiments in related basic sciences to be utilized in the research work: Golgi technique Nissel stain	Seminars. -- Practical teaching. -Lectures	-Oral exam. - Practical exam.
F. Use information technology to support decisions in common situations related to anatomy	Seminars. -- Practical teaching. -Lectures	

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 & oral communication	- Oral Exam - Logbook
B. Facilitate learning of junior students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
C. Write a report in neurological specimens	-Observation and supervision -Written & oral communication	- Oral Exam - Logbook

Professionalism

ILOs	Methods of teaching/ learning	Methods of Evaluation

D. Demonstrate a commitment to ethical principles.	-Observation -Senior staff experience	- Oral Exam - Logbook

Systems-Based Practice

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

4. Course contents (topics/modules/rotation

Time Schedule: First Part

Topic	Covered ILOs			
	Knowledge	Intellectual	Practical skill	General Skills
Anatomy of the spinal cord	A-B-C	A-B	A-F	A-E
Anatomy of the brain stem	A-B-C	A-B-C	A-F	A-E
Anatomy of cerebellum.	A-B-C	A-B-C	A-F	A-E
-Anatomy of the cerebral hemisphere	A-B-C	A-B-C	A-F	A-E
Anatomy and connection and function of t basal ganglia	A-B-C	A-B	A-F	A-E
Anatomy of the cranial nerves	A-B-C	A	A-F	A-E
Anatomy of autonomic nervous system	A-B-C	A	A-F	A-E

Tractology	A-B-C - E	A-B	A- F	A- E

5. Course Methods of teaching/learning:

1-
Lectures.
2-
Seminars.
3- Practical teaching
4- Observation and supervision
5- Written & oral
communication 6- Senior staff
experience

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

1. Extra didactic (lectures, seminars, tutorial)
2. Extra Practical teaching

7. Course assessment methods:

i. Assessment tools: Practical examination
Oral examination
Written
examination
Logbook

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

iii. Marks: 400

8. List of references

i-Lectures notes

- Staff members print out of lectures

ii. Essential books

- Gray's anatomy 40th ed, 2009.
- Clinical neuroanatomy R.S. Snell 7th ed,2010.

iii. Recommended books

- Basic clinical neuroscience 2nd ed, 2008.

iv. Periodicals, Web sites, … etc

- Neuroanatomy.

v. Others

none

Speciality Course
Course 2- Advanced Anatomy

Name of department: Department of Anatomy

- Faculty of medicine
- Aswan University

1. Course data

- Course Title: Basic Anatomy.
- Course code ANA201C
- Speciality Anatomy
  Number of credit points: Didactic 24 (20%) practical 96 (80 %) total 120
- Department (s) delivering the course: Department of Anatomy
  - General requirements (prerequisites) if any :none
- Requirements from the students to achieve Course 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	coordinators
Unit 1: Basic Anatomy	Prof. Dr. Sayed Anwar Sayed
Unit 2: Advanced Neuroanatomy	
Unit 3 : Advanced Embryology	

2. Course Aims

1. To enable candidates to acquire high level of practical skills, in addition to updated knowledge and professional competence in the area of Basic Anatomy , Advanced Neuroanatomy and Advanced Embryology including anatomy of different parts of the human body, 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 fundamental general skills related to Anatomy including, including, writing specialized reports, use of information technology in research and teaching junior students

3. Course intended learning outcomes (ILOs):

Unit 1- Basic Anatomy

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A-Describe common clinical conditions and diseases related to basic anatomy.	Practical teaching. -Lectures. -Seminars	-Written exam. -Oral exam. - Practical Exam.
B-Mention the following factual basics and principles essential Anatomy of Head and neck Upper limb. Lower limb. Thorax. Abdomen. Pelvis.	Practical teaching. -Lectures. -Seminars	-Written exam. -Oral exam. - Practical Exam.
C-State update and evidence based Knowledge related to the course: The anatomy of different parts of the human body	Practical teaching. -Lectures. -Seminars	-Written exam. -Oral exam. -Practical Exam.
D-Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to speciality including: Radiology	Practical teaching. -Lectures.	-Written exam. -Oral exam. - Practical Exam.

	-Seminars	
E-Mention the basic ethical and medicolegal principles revenant to the anatomy	Practical teaching. -Lectures. -Seminars	-Written exam. -Oral exam. - Practical Exam.
F-Mention the basics of quality	Practical	-Written exam.

assurance to ensure good professional skills in his field.	teaching. -Lectures. -Seminars	-Oral exam. - Practical Exam.
G-Mention the ethical and scientific principles of medical research	Practical teaching. -Lectures. -Seminars	-Written exam. -Oral exam. -Practical Exam.

B. Intellectual outcomes

ILOs	***Methods of teaching/ learning***	***Methods of Evaluation***
A-Correlates the facts of relevant basic and clinically supportive sciences with conditions and diseases of relevance to Anatomy	Practical teaching. -Lectures. -Seminars	-Written exam. -Oral exam. -Practical Exam.
B-Demonstrate an investigatory and analytic thinking (problem solving) approaches to conditions relevance to the anatomy of different parts of the human body	Practical teaching. -Lectures. -Seminars	-Written exam. -Oral exam. -Practical Exam.
C-Design and present audits, cases, seminars in common problems related to speciality.	Seminars	

C. Practical skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
A-Perform the following basic lab skills essential to the course: preparation of specimens and slides	Practical teaching. -Lectures. -Seminars	-Written exam. -Oral exam. - Practical Exam.
B. use instruments and devices in evaluation of light and electron microscopy		
C. Interpret non invasive/invasive procedures/ experiments Reports on various anatomical specimens		
C. Perform wing non invasive/invasive procedures/ experiments Various anatomical specimens		Log book
E- Write and evaluate of the following reports: Reports on various anatomical specimens	Practical teaching.	-Oral exam. - Practical Exam.
F- Perform the following basic experiments in related basic sciences to be utilized in the research work: Microscopic techniques		
G. Use information technology to support decisions in common situations related to anatomy		

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(audit, logbook)	-Observation and supervision -Written & oral communication	- Oral Exam - Logbook
B- Appraises evidence from scientific studies.		
C- participate in one audit or survey related to the course		
D- Perform data management including data entry and analysis.		
E- Facilitate learning of junior students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Maintain ethically sound relationship with others.	- Observation and supervision -Written & oral communication	- Oral Exam - Logbook
G. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.	-	
H. Provide information using effective nonverbal, explanatory, questioning, and writing skills.	-	

I. Work effectively with others as a member of a health care team or other professional group.	-	
J. Present a case in anatomy	Practical teaching.	-Written exam. -Oral exam.
K. Write a report in anatomical specimens		

Professionalism

ILOs	*Methods of teaching/ learning*	*Methods of Evaluation*
L- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation -Senior staff experience	- Oral Exam - Logbook
M- Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices	-	
N- Demonstrate sensitivity and responsiveness to others' culture, age, gender, and disabilities	-	

Systems-Based Practice

ILOs	**Methods of teaching/ learning**	**Methods of Evaluation**
O- Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating
P- Practice cost-effective health care and resource allocation that does not compromise quality of care.	-	
Q- Assist patients in dealing with system complexities.	-	

Course 2 Unit 2 - Advanced

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A-Describe common clinical conditions and diseases related to advanced Neuroanatomy	Seminars. Practical teaching. -Lectures.	Written exam. -Oral exam. -Practical exam.
B-Mention the following factual basics and principles essential Principles/details of Nervous system and its connection.		
C-State update and evidence based Knowledge related to the course: Principles/details of Nervous system and its connection.		
D-Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to speciality including: Principles/details of Nervous system and its connection		
E-Mention the basic ethical and medicolegal principles revenant to the advanced neuroanatomy.		
F-Mention the basics of quality assurance to ensure good professional skills in his field.		
G-Mention the ethical and scientific principles of medical research		

.H. State the impact of common problems related to the field of advanced neuroanatomy on the society and how good practice can improve these problems.		

B. Intellectual outcomes

ILOs	*Methods of teaching/ learning*	*Methods of Evaluation*
A- Correlates the facts of relevant basic and clinically supportive sciences with conditions and diseases of relevance to advanced neuroanatomy	-Seminars. -- Practical teaching. -Lectures.	-Written exam. -Oral exam. - Practical exam.
B- Demonstrate an investigatory and analytic thinking (problem solving) approaches to conditions relevance to advanced neuroanatomy		
C- Design and present audits, cases, seminars in common problems related to advanced neuroanatomy.		
D- Formulate management plans and alternative decisions in different situations in the field of the advanced neuroanatomy.		

C. Practical skills

ILOs	**Methods of teaching/ learning**	**Methods of Evaluation**
A-perform basic lab skills essential to the course: preparations of specimens and slides	Seminars. -- Practical teaching. -Lectures.	Written exam. -Oral exam. - Practical exam.
B. use instruments and devices in evaluation of slides of neuroanatomy		

C. Interpret non invasive/invasive procedures/ experiments neurological specimens and slides		Log book
D. Perform non invasive/invasive procedures/		Log book

experiments neurological specimens and slides		
E. Write and evaluate reports: On neurological specimens		
F. Perform basic experiments in related basic sciences to be utilized in the research work: Golgi technique Nissel stain		
G. Use information technology to support decisions in common situations related to advanced neuroanatomy		
H. Develop plans for performing experiments related to Anatomy.		
I. Counsel and educate students, technicians and junior staff, in the lab about conditions related to advanced neuroanatomy; including handling of samples, devices, safety and maintenance of laboratory equipments.		
J. Share in providing health care services aimed solving health problems and better understanding of the normal structure and function.		

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(logbook)	Seminars. --Practical teaching. -Lectures.	-Written exam. -Oral exam. - Practical exam.

B. Appraises evidence from scientific studies.		
C Perform data management including data entry and analysis.		
D Facilitate learning of junior students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
E. Maintain ethically sound relationship with others.	- Observation and supervision -Written & oral communication	- Oral Exam - Logbook
F. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.		
G Provide information using effective nonverbal, explanatory, questioning, and writing skills.		
H Work effectively with others as a member of a health care team or other professional group.	-	
I Present a case in advanced neuroanatomy.	-	
J. Write a report in neurological specimens		

Professionalism

ILOs	*Methods of teaching/ learning*	*Methods of Evaluation*
K. Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation -Senior staff experience	- Oral Exam - Logbook
L. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed		

consent, business practices		
M. Demonstrate sensitivity and responsiveness to others' culture, age, gender, and disabilities	-	

Systems-Based Practice

ILOs	Methods of teaching/ learning	Methods of Evaluation
N. Work effectively in relevant health care delivery settings and systems.	-Observation -Senior staff experience	-360o global rating
O. Practice cost-effective health care and resource allocation that does not compromise quality of care.	-	
P. Assist patients in dealing with system complexities.	-	

Course 2 Unit 3 Advanced

A-Knowledge and understanding

ILOs	*Methods of teaching/ Learning*	*Methods of Evaluation*
A-Describe common clinical conditions and diseases related to Basic advanced embryology.	Lectures. - Practical teaching . -Seminars.	Written exam. -Oral exam. Practical Exam
B-Mention the following factual basics and principles essential to embryology		
C-State update and evidence based Knowledge related to the course: Formation of the embryo and development of different system of the body and their congenital Anomalies		
D-Memorize the facts and principles of the other relevant basic and clinically supportive sciences related to speciality including: teratology		
E-Mention the basic ethical and medicolegal principles revenant to the embryology.		
F-Mention the basics of quality assurance to ensure good professional skills in his field.		

G-Mention the ethical and scientific principles of medical research		

B. Intellectual outcomes

ILOs	*Methods of teaching/ learning*	*Methods of Evaluation*
A. Correlates the facts of relevant basic and clinically supportive sciences with conditions and diseases of relevance to 1- The detailed steps of the embryo formation and the development of different systems and its anomalies. **2-** Acquire background about applied anatomy**.**	Lectures. - Practical teaching . -Seminars.	-Written exam. -Oral exam. Practical Exam
B. Demonstrate an investigatory and analytic thinking (problem solving) approaches to conditions relevance to **e**mbryology		
C. Design and present audits, cases, seminars in common problems related to embryology.		

C. Practical skills

ILOs	**Methods of teaching/ learning**	**Methods of Evaluation**
A-Perform the following basic lab skills essential to the course; Preparation of specimens and slides	Lectures. - Practical teaching . -Seminars.	-Written exam. -Oral exam. Practical Exam
B- Interpret non invasive/invasive procedures/ experiments embryology specimens	-	
C. Perform the following non invasive/invasive procedures/ experiments Reports on embryology specimens	-	

D-Write and evaluate of the following reports: Reports on congenital anomalies		
E-Perform the following basic experiments in related		

basic sciences to be utilized in the research work: Electron and immunhistochemistry		
F. Use information technology to support decisions in common situations related to advanced embryology		

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(logbook)	Lectures. - Practical teaching . -Seminars.	Written exam. -Oral exam. Practical Exam
B. Appraises evidence from scientific studies.		
C. participate in one audit or survey related to embryology.		
D. Perform data management including data entry and analysis.		
E. Facilitate learning of junior students and other health care professionals.		

Interpersonal and Communication Skills

ILOs	Methods of teaching/ learning	Methods of Evaluation
F. Maintain ethically sound relationship with others.	- Observation and supervision -Written & oral	- Oral Exam - Logbook

	communicatio n	
G. Elicit information using effective nonverbal, explanatory, questioning, and writing skills.		

H. Provide information using effective nonverbal, explanatory, questioning, and writing skills.		
I. Work effectively with others as a member of a health care team or other professional group.		
J. Present a case in embryology.		
K. Write a report in specimens of embryology.		

Professionalism

ILOs	***Methods of teaching/ learning***	***Methods of Evaluation***
L- Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society	-Observation -Senior staff experience	- Oral Exam - Logbook
M- Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices	-	
N- Demonstrate sensitivity and responsiveness to others' culture, age, gender, and disabilities	-	

Systems-Based Practice

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

P- Practice cost-effective health care and resource allocation that does not compromise quality of care.	-	
Q- Assist in dealing with system patient s complexities.	-	

4. Course contents (topics/modules/rotation

Time Schedule: Second part

Topic	Covered ILOs			
	Knowledge	**Intellectual**	**Practical skill**	**General Skills**
Unit 1: Basic Anatomy				
Anatomy of the upper limb Pectoral region and axilla anatomy of the back anatomy of the shoulder arm forearm hand	A-B,D-F	A-B	A-G	A-Q
Anatomy of the lower limb Bones Thigh Gluteal region Popliteal fossa Leg Foot Joints of the lower limb	A-B-C	A-B	A-E	A

Anatomy of the thorax which include : bony thorax Thoracic wall Anatomy of the mediastinum Anatomy of the heart and pericardium. Anatomy of the lung and pleura.	A-B-C	A-C	A	A

• Anatomy of joints of the thoracic wall				
Anatomy of the abdomen which include: • Anatomy of anterior abdominal wall. • Anatomy of inguinal region • Anatomy of peritoneum. Anatomy of different abdominal organs . • Anatomy of posterior abdominal wall.	A-B-C	A-C	A	A
Anatomy of the pelvis which include : • bony pelvis . • Arrangement of pelvic viscera in male and female • Anatomy of nerves and vessels in pelvis • Anatomy of the urinary bladder and pelvic part of the ureters Anatomy of the female genital organs Anatomy of the male genital organs • Anatomy of the sigmoid colon and rectum • joints of pelvis .	A-B-C	A-C		A-B

Anatomy of perineum .				
Anatomy of Head and Neck which include:	A-B	A- C	A	A-B

• Anatomy of the • scalp. Anatomy of • the face. Cranial cavity ,dural folds and venous sinuses.Triangles of the neck. • Anatomy of the • orbit Great • vessels. Anatomy of • infratemporal fossa. Anatomy of the • submandibular region Anatomy of • the mouth cavity. • Anatomy of the • pharynx Anatomy of the larynx Anatomy of the ear				
Unit 2: Advanced Neuroanatomy				
Anatomy of the spinal cord	-A-B-C	A-B	A-J	A-P
Anatomy of the brain stem	A-B-C	A-B-D	A-J	A-P
Anatomy of cerebellum.	A-B-C	A-B-C	A-J	A-B-G
-Anatomy of the cerebral hemisphere	A-B-C	A-B-C	A-J	A-B-G
Anatomy and connection and function of t basal ganglia	A-B-C	A-B		A-B-G
Anatomy of the cranial nerves	A-B-C	A		A-B-G

Anatomy of autonomic nervous system	A-B-C	A		A-B-G
Tractology	A- H	A-B		A-B-G
Anatomy of the diencephalon	A-B-C	A		A-B-G

Anatomy of the limbic system	A-B-C	A		A-B-G
Anatomy of the reticular formation	A-B-C	A		A-B-G
Unit 3 : Advanced Embryology				
Development of male and female gamets	A-G	A-C	A-F	A-Q
Fertilization , cleavage,and ,implantation.	-A-G	A		-A-C
Development of the embryonic discs Fate of germ layers	A-B-C	A		A
-Fetal membranes.	A-B-C	A		A
Growth of embryo and fetus Abnormal development and twinning	A-B-C	A		A
Development of special systems: Development of Cardiovascular system	A-B-C	- A		A
Development of Digestive system	A-B-C	A		
Development of Respiratory system	A-B-C	A		A
Development of Urinary system	A-B-C	-A		A
Development of Genital system	A-B-C	A		A
Development of branchial arches Face and palat	A-B-C	A		A

Development of Skin and mammary gland	A-B-C	A		

Development of integumentry system	A-B-C.	IA		A
Development of Musculoskeletal system	- A-B-C	A		A
Development of Septum transversum and diaphragm	A-B-C	A		
Development of the central nervous system	A-B-C	A		A
Development of the ear	A-B-C	A		A
Development of the eye ball	A-B-C	A		A

5. Methods of teaching/learning:

1-Lectures.
2-Seminars.
3-Practical teaching
4- Observation and supervision
5- Written & oral communication 6- Senior staff experience

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

1. Extra didactic (lectures, seminars, tutorial)
2. Extra Practical teaching

7. Assessment methods:

i. Assessment tools: Practical examination
Oral examination
Written examination
Logbook

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

iii. Marks: 1200

8. List of references

i. Lectures notes

- Staff members print out of lectures

ii. Essential books

- Gray's anatomy 40th Ed,2009.
- Clinical Anatomy for Medical Students, R.S. Snell 9th Ed.2011
- Clinically Oriented Anatomy, 6th Edition 2009 by Keith L. Moore
- Langman's medical embryology 11th ed,2009.
- Clinical neuroanatomy R.S. Snell 7th ed,2010

iii. Recommended books

- Last's Anatomy 12th Ed, 2011.
- Grant's Atlas of Anatomy, 13th Edition February 17, 2012 .
- Basic clinical neuroscience 2nd ed, 2008.

iv. Periodicals, Web sites, … etc

- Journal of anatomy
- www.visembryo.com
- www.indiana.edu/anat550/embryo_main/index
- Neuroanatomy.

ANNEX 2
Program Academic Reference Standards (ARS)

1- Graduate attributes for basic master degree

***The Graduate (after residence training and master degree years of study) must*:**

1- Have the capability to be a scholar, understanding and applying basics, methods and tools of scientific research and medical audit in the chosen field of Anatomy.

2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in related speciality.

3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in the field of Anatomy.

4- Dealing with common problems and health promotion using updated information in the field of Anatomy.

5- Identify and share to solve health problems in his speciality.

6- Acquire all competencies including the use of recent technologies- that enable him to provide safe, scientific, and ethical care including update use of new technology in the Anatomy field.

7- Demonstrate interpersonal and communication skills that ensure effective information exchange with other health professions, the scientific community, junior students and the public.

8- Function as supervisor, and trainer in relation to colleagues, medical students and other health professions.

9- Acquire decision making capabilities in different situations related to his field of practice.

10- Show responsiveness to the larger context of the related health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.

11- Be aware of public health and health policy issues and share in system-based improvement of his practice and related health care.

12- Show appropriate attitudes and professionalism.

13- Demonstrate skills of lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages in the Anatomy or one of its subspecialties.

2- Competency based Standards for basic master degree graduates

2.1- Knowledge and understanding

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

2-1-A- Established basic, biomedical, clinical, epidemiological and behavioral sciences related to the Anatomy.

2-1-B- The relation between practice in the speciality and the welfare of society.

2-1-C- Up to date and recent developments in common problems related to the field of Anatomy.

2-1-D- Ethical and medicolegal principles relevant to practice in the Anatomy field.

2-1-E -Quality assurance principles related to the good medical practice in the Anatomy field.

2-1-F- Ethical and scientific basics of medical research.

2.2- Intellectual skills:

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

2-2-A- Correlation of different relevant sciences in the problem solving and management of common problems of the Anatomy.

2-2-B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common situations related to Anatomy.

2.2- C- Demonstrating systematic approach in studying common themes or problems relevant to the Anatomy field.

2-2-D- Making alternative decisions in different situations in the field of the Anatomy.

2.3- Clinical skills/Practical skills

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

2-3-A - Provide practical and or laboratory services that can help patient care, solving health problems and better understanding of the normal structure and function.

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

2-3- C- Write and comment on 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- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management.

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

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

- *Competency-based objectives for interpersonal and communication **Skills***

2-4-D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, lab technical staff and other health professionals.

- ***Competency-based objectives{or Professionalism***

2-4-E- Demonstrate professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

- ***Competency-based objectives Jor Systems-based Practice***

2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and academic services and the ability to effectively use system resources to provide care that is of optimal value.

2-4-G- Demonstrate skills of effective time management.
2-4-H- 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 Master Degree 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 Master Degree doctors 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 MSc 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 MSc doctor's performance on checklists and provide feedback for history taking, physical examination, and communication skills. Physicians may also rate the MSc doctor's performance.

- Objective Structured Clinical Examination (OSCE)– A series of stations with standardized tasks for the MSc doctors to perform. Standardized patients and other assessment methods often are combined in an OSCE. An observer or the standardized patient may evaluate the MSc doctors.

- Procedure or Case Logs – MSc 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 a MSc 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 – MSc doctors, faculty, nurses, clerks, and other clinical staff evaluate MSc doctors from different perspectives using similar rating forms.

- Portfolios – A portfolio is a set of project reports that are prepared by the MSc doctors to document projects completed during the MSc 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 – MSc 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 MSc doctors.

Annex 5, Program evaluation

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:

التشريح

I- General Academic Reference Standards (GARS) versus Program ARS

1- Graduate attributes

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
1- Have the capability to be a scholar, understanding and applying basics, methods and tools of scientific research and medical audit in anatomy	1- إجادة تطبيق أساسيات و منهجيات البحث العلمي واستخدام أدواته المختلفة
2- Appraise and utilise scientific knowledge to continuously update and improve clinical practice in the anatomy	2-تطبيق المنهج التحليلي واستخدامه في مجال التخصص
3- Acquire sufficient medical knowledge in the basic biomedical, clinical, behavioural and clinical sciences, medical ethics and medical jurisprudence and apply such knowledge in patient care in the field of speciality.	3-تطبيق المعارف المتخصصة و دمجها مع المعارف ذات العلاقة في ممارسته المهنية
4- Dealing with common problems and health promotion using updated information in the field of speciality.	الرؤى الحديثة في مجال التخصص
5- Identify and share to solve health problems in his speciality.	حلولا لها
6- Acquire all competencies that enable him to provide safe, scientific, ethical care including update use of new technology in anatomy	6-إتقان نطاق مناسب من المهارات المهنية المتخصصة، واستخدام الوسائل التكنولوجيةالمناسبة بما يخدم ممارسته المهنية

1- Graduate attributes (Continuous)

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
7- Demonstrate interpersonal and communication skills that ensure effective information exchange with other health professions, the scientific community, junior students and the public. 8- Function as supervisor, and trainer in relation to colleagues, medical students and other health professions.	7–التواصل بفاعلية و القدرة على قيادة فرق العمل
9- Acquire decision making capabilities in different situations related to anatomy field of practice.	8–اتخاذ القرار في سياقات مهنية مختلفة
10- Show responsiveness to the larger context of the related health care system, including e.g. the organisation of health care, partnership with health care providers and managers, practice of cost-effective health care, health economics, and resource allocations.	,m t u«-x› m!@i —9 الحفاظ عليها
11- Be aware of public health and health policy issues and share in system-based improvement of anatomy	10–إظهار الوعي بدوره في تنمية المجتمع و الحفاظ على البيئة في ضوء المتغيرات العالمية و الإقليمية
12- Show appropriate attitudes and professionalism.	11–التصرف بما يعكس الالتزام بالنزاهة و المصداقية و الالتزام بقواعد المهنة
13- Demonstrate skills of lifelong learning and maintenance of competence and ability for continuous medical education and learning in subsequent stages in anatomy one of its subspecialties.	12–تنمية ذاته أكاديميا و مهنيا و قادرا علي التعلم المستمر

2-Academic standards

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.1. A - Established basic, biomedical, clinical, epidemiological and behavioral sciences related to anatomy	2-1-أ-النظريات و الأساسيات المتعلقة بمجال التعلم وكذا في المجالات ذات
2.1. B- The relation between practice in anatomy and the welfare of society.	¿Wl J‹oJi o=i«—+—1—:! علي البيئة.
2.1. C- Up to date and recent developments in common problems related to the anatomy	2-1-ج-التطورات العلمية في مجال التخصص.
2.1. D- Ethical and medicolegal principles relevant to practice in the anatomy field.	2-1-د-المبادئ الأخلاقية و القانونية للممارسة المهنية في مجال التخصص.
2.1. E- Quality assurance principle related to the good medical practice in the anatomy field.	tm › — —1-2 في الممارسة المهنية في مجال التخصص
2.1. F- Ethical and scientific basics of medical research.	البحث c.t,s-z«i c.;yzi —=1—z العلمي

2- Academic standards (Continuous)

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.2. A- Correlation of different relevant sciences in the problem solving and management of common problems of the anatomy 2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common situations related to speciality.	2-2-أ- تحليل و تقييم المعلومات في مجال التخصص والقياس عليها لحل المشاكل
2.2. B- Problem solving skills based on data analysis and evaluation (even in the absence of some) for common situations related to anatomy	2-2-ب- حل المشاكل المتخصصة مع عدم توافر بعض المعطيات
2.2. A- Correlation of different relevant sciences in the problem solving and management of common problems of anatomy	2-2-ج- الربط بين المعارف المختلفة لحل المشاكل المهنية
2.2. C- Demonstrating systematic approach in studding common themes or problems relevant to the anatomy.	tgm yt/t tq ,t ——¿—¿ علمية منهجية حول مشكلة بحثية
2.4. A- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management.	2-2هـ- تقييم المخاطر في الممارسات المهنية في مجال التخصص
2.4. A- Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management.	2-2-و- التخطيط لتطوير الأداء في مجال التخصص

2-Academic standards (Continuous)

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.2. D- Making alternative decisions in different situations in the field of anatomy	2-2-ز- اتخاذ القرارات المهنية في سياقات مهنية متنوعة
2.3.A- Provide practical and or laboratory services that can help patient care ,solving health problems and better understanding of the normal structure and function. 2.3. B- Demonstrate practical / laboratory skills relevant to anatomy	2-3-أ- إتقان المهارات المهنية الأساسية و الحديثة في مجال التخصص
2.3. C- Write and comment on reports for situations related to the field anatomy	2-3-ب- كتابة و تقييم التقارير المهنية
2.3.A- Provide practical and or laboratory services that can help patient care ,solving health problems and better understanding of the normal structure and function. 2.3. B- Demonstrate practical / laboratory skills relevant to anatomy	2-3-ج- تقييم الطرق و الأدوات القائمة في مجال التخصص

2-Academic standards (Continuous)

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.4. D- Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, lab technical staff and other health professionals.	4-أ-التواصل الفعال بأنواعه المختلفة
2.4. A- Demonstrate Practice-Based learning and Improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management. 2.4. B- Use all information sources and technology to improve his practice.	4-2-ب- استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية
2.4. A- Demonstrate Practice-Based learning and Improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management. 2.4. B- Use all information sources and technology to improve his practice. 2.4. E-Demonstrate Professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	4-2-ج- التقييم الذاتي وتحديد احتياجاته التعلمية الشخصية

2-Academic standards (Continuous)

Faculty ARS	NAQAAE General ARS for Postgraduate Programs
2.4. A- Demonstrate Practice-Based learning and Improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management.	2-4-د- استخدام المصادر المختلفة للحصول على المعلومات و المعارف
2.4. C- Demonstrate skills of teaching and evaluating others.	2-4-هـ- وضع قواعد ومؤشرات تقييم أداء الآخرين
2.4. F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and academic services and the ability to effectively use system resources to provide care that is of optimal value.	2-4-و- العمل في فريق ، وقيادة فرق في سياقات مهنية مختلفة
2.4. G- Demonstrate skills of effective time management.	2-4-ز- إدارة الوقت بكفاءة
2.4. H- Demonstrate skills of self and continuous learning.	2-4-ح- التعلم الذاتي و المستمر

Comparison between ARS & ILOS for master degree (basic)

(ARS)	(ILOs)
2-1- Knowledge and understanding **2-1-A-** Established basic, biomedical, clinical, epidemiological and behavioral sciences related to anatomy	***2-1- Knowledge and understanding*** **2-1-A**- Explain the essential facts and principles of relevant basic sciences including basic Neuroanatomy and Embryology related to Anatomy. **2-1-B-** Mention essential facts of clinical supportive sciences related to anatomy **2-1-C-** Demonstrate sufficient knowledge of the main subjects related to anatomy
2-1-B The relation between practice in the Anatomy and the welfare of society.	**2-1-H-** State the impact of common problems related to the field of anatomy on the society and how good practice can improve these problems.
2-1-C- Up to date and recent developments in common problems re to the field of Anatomy.	**2-1-C-** Demonstrate sufficient knowledge of the main subjects related to anatomy **2-1-D-** Give the recent and update developments in the most important themes related to anatomy
2-1-D- Ethical and medicolegal principles relevant to practice in the Anatomy field.	**2-1-E-** Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the field of anatomy
2-1-E-Quality assurance principles related to the good medical practice in the Anatomy field.	**2-1-F-** Mention the basics and standards of quality assurance to ensure good practice in the field of anatomy.
2-1-F- Ethical and scientific basics of medical research.	**2-1-G-** Mention the ethical and scientific principles of medical research methodology.

continuous (ARS)	continuous (ILOs)
***2-2- Intellectual skills*:**	***2-2- Intellectual skills:***
2-2-A-Correlation of different relevant sciences in the problem solving and management of common problems of the Anatomy.	**2-2-A-** Correlate the relevant facts of relevant basic and clinically supportive sciences with reasoning, diagnosis and management of common problems of the Anatomy.
2-2-B-Problem solving skills based on data analysis and evaluation (even in the absence of some) for common situations related to Anatomy.	**2-2-B-** Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical or practical situations related to Anatomy.
2-2-C- Demonstrating systematic approach in studding common themes or problems relevant to the Anatomy field.	**2-2-C-** Design and /or present a case or review (through seminars/journal clubs.) in one or more of common themes or problems relevant to the Anatomy.
2-2-D Making alternative decisions in different situations in the field of the Anatomy.	**2-2-D-** Formulate management plans and alternative decisions in different situations in the field of the Anatomy.
2-3- Practical skills:	***2/3/1/Practical skills)***

2-3-A- Provide practical and or laboratory services that can help patient care ,solving health problems and better	**2-3-1-A-** Demonstrate competently relevant laboratory skills related to Anatomy.

understanding of the normal structure and function. **2-3-B-** Demonstrate practical/laboratory skills relevant to that Anatomy.	**2-3-1-B-** Use the up to date technology for the conditions related to Anatomy. **2-3-1-C-** Develop plans for performing experiments related to Anatomy. **2-3-1-D-** Carry out common experiments related to Anatomy. **2-3-1-E-** Counsel and educate students, technicians and junior staff, in the lab about conditions related to Anatomy.; including handling of samples, devices, safety and maintenance of laboratory equipments. **2-3-1-F-** Use information technology in some of the situations related to Anatomy. **2-3-1-G-** Share in providing health care services aimed supporting patient care ,solving health problems and better understanding of the normal structure and function.
2-3-C- Write and comment on reports for situations related to the field Anatomy.	**2-3-1-H** Write competently all forms of professional reports related to Anatomy (lab reports, experiments reports,).

continuous (ARS)	continuous (ILOs)
2-4- General skills **2-4-A-** Demonstrate practice-based learning and improvement skills that involves investigation and evaluation of their own practice, appraisal and assimilation of scientific evidence, improvements in provided services and risk management	***2/3/2 General skills*** **2-3-2-A-** Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks). **2-3-2-B-** Appraises evidence from scientific studies. **2-3-2-C-** Conduct epidemiological Studies and surveys.
2-4-B- Use all information sources and technology to improve his practice.	**2-3-2-C-** Conduct epidemiological Studies and surveys. **2-3-2-D**-Performdata management including data entry and analysis and Using information technology to manage information, access on-line medical information; and support their own education.
2-4-C- Demonstrate skills of teaching and evaluating others.	**2-3-2-E-** Facilitate learning of students, lab technical staff and other health care professionals including their evaluation and assessment.

2-4-D- Demonstrate interpersonal and communication skills that result in effective	**2-3-2-F-** Maintain therapeutic and ethically sound relationship with patients, their families, lab

information exchange and teaming with patients, their families, lab technical staff and other health professionals.	technical staff and other health professionals. **2-3-2-G-** Elicit information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-H-** Provide information using effective nonverbal, explanatory, questioning, and writing skills. **2-3-2-I-** Work effectively with others as a member of a team or other professional group.
2-4-E-Demonstrate professionalism behaviors, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.	**2-3-2-J-** Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society. **2-3-2-K**- Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices. **2-3-2-L**-Demonstrate sensitivity and responsiveness to others culture, age, gender, and disabilities.
2-4-F- Demonstrate an awareness of and responsiveness to the larger context and system of health care and	**2-3-2-M**-Work effectively in relevant academic and health care delivery settings and systems including good administrative

academic services and the ability to	and time management.

effectively use system resources to provide care that is of optimal value.	**2-3-2-N-** Adopt cost-effective practice and resource allocation that does not compromise quality of services. **2-3-2-O**- Assist patients in dealing with system complexities.
2-4-G- Demonstrate skills of effective time management.	**2-3-2-M**-Work effectively in relevant academic or health care systems including good administrative and time management.
2-4-H- Demonstrate skills of self and continuous learning.	**2-3-2-A-** Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).

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	2/1/F	2/1/G	2/1/H
Basic course : Course 1: basic embryology	✓	✓	✓	✓	✓	✓	✓	
Or Basic neuroanatomy	✓	✓	✓	✓	✓	✓	✓	
Specialized course: Course 2 :Advanced Anatomy	✓	✓	✓	✓	✓	✓	✓	✓

Intellectual Outcomes

Course	Program Covered ILOs			
	2/1/A	2/1/B	2/1/C	2/1/D
Basic course : Course 1: basic embryology	✓	✓	✓	
Or Basic neuroanatomy	✓	✓	✓	
Specialized course: Course 2 :Advanced Anatomy	✓	✓	✓	✓

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
Basic course : Course 1: basic embryology	✓	✓		✓		✓		✓
Or Basic neuroanatomy	✓	✓		✓		✓		✓
Specialized course: Course 2 :Advanced Anatomy	✓	✓	✓	✓	✓	✓	✓	✓

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
Basic course : Course 1: basic embryology				✓	✓			✓
Or Basic neuroanatomy				✓	✓			✓
Specialized course: Course 2 :Advanced Anatomy	✓	✓	✓	✓	✓	✓	✓	✓

General Skills

Course	Program covered ILOs						
	2/3/2/I	2/3/2/ J	2/3/2/ K	2/3/2/ L	2/3/2/ M	2/3/2/ N	2/3/2/ O
Basic course : Course 1: basic embryology			✓		✓		
Or Basic neuroanatomy			✓		✓		
Specialized course: Course 2 :Advanced Anatomy	✓	✓	✓	✓	✓	✓	✓

Annex 7, Additional information:

Department information:

-lab including plastinated specimens and models

Staff members:

Head of the Department: Prof.Dr.sayed anwarsayed
Assistant Lecturer/asmaa alsayed hasan
Assistant Lecturer/Mohamed alsayed alshiekh
Demonstrator/allaa fawzy abd elrahman
Demonstrator/aya hosney

(End of the program specification)