

Master (MSC) Degree Program and Courses Specifications for Radio diagnosis

RADIOLOGY DEPARTEMENT

Faculty of medicine

Aswan University

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1- Program aims

1. To provide The candidates with an educational experience in the understanding of the indications for examinations and familiarity with the principles and limitation of studies, including benefit and risk to the patient.
2. To be Familiar with the anatomy, physiology, path-physiology and post therapeutic findings which may be identified through general radiology examination.
3. To enable candidates to understand technology and techniques of radiology.
4. Learn skills needed for effective physician consultation and communication.
5. To enable candidates to acquire the knowledge of Criteria for radiographic exposure and positioning and effective communication with radiographic technologists and other department personnel.
6. To Know Fluoroscopic techniques and its uses.
7. Understand the technical principles of US, CT and MRI.
8. Develop skill in protocol-ing, monitoring and interpreting cross-sectional imaging examination.
9. Be able to monitor all CT exams and determine if additional imaging is needed before the examination is completed.
10. Communicate with patients in proficient manner for both information gathering and for diminishing the burden of the disease.
11. Know indications and contra-indications of contrast studies as well as the performance of these studies, risks and benefits for the patient and alternatives.
12. Knows and apply the basic and clinically supportive science which is appropriate to different radiological findings.
13. Be able to dictate accurate, concise reports.

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

2/1 Knowledge and understanding:

- A. Explain the essential facts and principles of relevant basic sciences including, Pathology, Radiological Physics, Radiological Technology , radiological anatomy, Radiobiology and Radiological service related to Radio-diagnosis.
- B. Mention essential facts of clinically supportive sciences including –General Surgery and Internal Medicine related to Radio-diagnosis.
- C. Demonstrate sufficient knowledge of etiology, clinical picture, diagnosis, prevention and treatment of common diseases and situations related to Radio-diagnosis.
- D. Give the recent and update developments in the pathogenesis, diagnosis, prevention and treatment of common diseases related to Radio-diagnosis.
- E. Mention the basic ethical and medicolegal principles that should be applied in practice and are relevant to the Radio-diagnosis.
- F. Mention the basics and standards of quality assurance to ensure good clinical practice in the field of Radio-diagnosis.
- G. Mention the ethical and scientific principles of medical research methodology.
- H. State the impact of common health problems in the field of Radio-diagnosis on the society and how good clinical practice improve these problems.

2/2 Intellectual outcomes

- A. Correlate the facts of relevant basic and clinically supportive sciences with clinical reasoning, diagnosis and management of common diseases of the Radio-diagnosis.
- B. Demonstrate an investigatory and analytic thinking approach (problem solving) to common clinical situations related to Radio-diagnosis.
- C. Design and /or present a case or review (through seminars/journal clubs.) in one or more of common clinical problems relevant to the field Radio-diagnosis.
- D. Formulate management plans and alternative decisions in different situations in the field of the Radio-diagnosis.

2/3 Skills

2/3/1 Practical skills (Patient Care)

- A. Obtain proper history and examine patients in caring and respectful behaviors.
- B. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment for common conditions related to Radio-diagnosis.
- C. Carry out patient management plans for common conditions related to Radio-diagnosis.
- D. Use information technology to support patient care decisions and patient education in common clinical situations related to Radio-diagnosis.
- E. Perform competently non invasive and invasive procedures considered essential for the Radio-diagnosis.
- F. Provide health care services aimed at preventing health problems related to Radio-diagnosis.
- G. Provide patient-focused care in common conditions related to Radio-diagnosis., while working with health care professionals, including those from other disciplines

H-Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and maintaining medical records)

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 using information technology to manage information, access on-line medical information; and support their own education.
- E. Facilitate learning of students and other health care professionals including their evaluation and assessment.

Interpersonal and Communication Skills

- F. Maintain therapeutic and ethically sound relationship with patients.
- 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.

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 patients' culture, age, gender, and disabilities

Systems-Based Practice

- M. Work effectively in relevant health care delivery settings and systems including good administrative and time management.
- N. Practice cost-effective health care and resource allocation that does not compromise quality of care.
- O. Assist patients in dealing with system complexities.

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

Academic standards for master degree in Radio-diagnosis.

Aswan Faculty of Medicine developed master degree programs' academic standards for different clinical 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 17-6- 2009. These standards were revised and approved without changes by Faculty Council on 23-9-2014.

4- Program External References (Benchmarks)

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

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

2. American College of Radiology (ACR).<http://www.acr.org/>

Comparison between program and external reference		
Item	Radio diagnosis Department	American College of Radiology (ACR).
Goals	Matched	Matched
ILOS	Matched	Different
Duration	3-5 years	Different
Requirement	Different	Different
Program structure	Different	Different

5. Program Structure and Contents

A. Duration of program: 3 – 5 years

B. Structure of the program:

Total number of credit point: 180 (20 out of them for thesis)

Didactic 40 (22.2 %), practical 120 (66.7 %), thesis 20 (11.1%) total 180

First part

Didactic 14 (35 %), practical 24 (60 %), elective course 2 CP (5%), total 40

Second part

Didactic 24, (20% %) practical 96 (80 %) total 120

According the currently applied credit points bylaws:

Total courses 160 credit point ``

Compulsory courses: 98.75%

Elective course : 2 credit point =1.25%

	Credit points	% from total
Basic science courses	24	13.3%
Humanity and social courses	2	1.1%
Speciality courses	134	74.5%
Others (Computer, ...)		
Field training	120	66.7%
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

Students are allowed to sit the exams of these courses after 12 months from applying to the MSc 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 1900 marks.

700 marks for first part



1200 for
second part Written
exam 40% - 70%.

Clinical/practical and oral exams 30% - 60%.

Curriculum Structure: (Courses):

Courses and student work load list	Course Code	Core CREDIT POINTs			
		Lectures	training	total	
First Part					
Basic science courses					
Course 1: Radiological Physics.	RAD228A §	2.5	-	2.5	
Course2:Radiological Technology	RAD228B	1	1	2	
Course 3: & Radiological Anatomy	RAD228C	1	1	2	
Course 4: Radiobiology and radiological services	RAD227	1.5	-	1.5	
General clinical compulsory courses (6 points)	RAD228D#			6	
Course 5: Internal Medicine& General Surgery& Pathology					
Unit 1: Internal Medicine					2
Unit 2 General Surgery					2
Unit 3 Pathology		2			
Elective courses*	2 credit points				
Clinical training and scientific activities:					
Clinical training in General Clinical compulsory courses (10 CP)					
Internal Medicine& General Surgery& Pathology	RAD228D#			10	

Unit 1: Internal Medicine		5	
Unit 2 General Surgery		5	
Unit 3 Pathology		-	
Clinical training and scientific activities in Speciality course (14 CP)			
Course 6 : Radio diagnosis	RAD228E		
Total of first part		16	24
Second Part	Speciality courses 24 CP Speciality Clinical Work 96 CP		
Speciality Courses	RAD228E	24	
Course 6 : Radio diagnosis			
Training and practical activities in speciality (96 CP)		96	
Total of the second part		24	96
Thesis			120
Total of the degree			180

* 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#:

- 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.

Course 6 :Radio diagnosis

Modules/ Units' Titles' list	% from total CREDIT POINTS
Course 6: Radio diagnosis	
Module or unit 1: Gastrointestinal tract	15%
Module or unit 2: Genito-urinary tract	15%
Module or unit 3 : Neuroradiology, head and neck.	20%
Module or unit 4: US	15%
Module or unit 5 Musculoskeletal system.	15%
Unit (module) 6 Chest and cardio-vascular system	20%
Total number of units = 6	100%

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



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

II. Specific Requirements:

- Fluent in English (study language)

VACATIONS AND STUDY LEAVE

The current departmental policy is to give working residents 2 week leave prior to first/ second part exams.

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
Clinical: Long/short cases OSCE	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 Exam *	Practical Clinical Exam /	Total
First Part					
Course 1 Radiological Physics.	RAD228A	75	50	-	125
Course 2 Radiological Technology	RAD228B	50	25	25	100
Course 3 : Radiological Anatomy	RAD228C	50	25	25	100
Course 4 : Radiobiology and radiological services	RAD227	40 (15+25)	35 (15-20)	-	75 (30- 45)
Course 5: Internal Medicine& General Surgery& Pathology	RAD228D#	150	75	75	300
Unit 1: Internal Medicine		45	17.5	37.5	100
Unit 2 General Surgery		45	17.5	37.5	100
Unit 3 Pathology		60	40	-	100
Total of the first part					700
Second Part					
Speciality Courses:					
Course 6 Radio diagnosis	RAD228E	480	360	360	1200
PAPER 1		120			
PAPER2		120			
PAPER 3		120			
PAPER 4		120			
Total of second part			360	360	1200

* 25% of the oral exam for assessment of logbook

700 marks for first part

1200 for second part

Written exam 40% (480 marks).

Clinical /practical and oral exams 60% (720 marks)

Examination system:

➤ First part:

- Written exam 3 hours in Physics + Oral exam
- Written exam 2 hours in Radiological techniques+ Oral exam including assessment of practical skills
- Written exam 2 hours in radiological anatomy+ Oral exam including assessment of practical skills
- Written exam 3 hours in Radiobiology + Radiological services + Oral exam including assessment of practical skills.
- Written exam 3 hours in internal medicine + General surgery + Pathology + Oral exam+ Clinical exam.

➤ Second part:

- Written exam Four papers 3 hours for each in Radio diagnosis + Oral exam+ Clinical exam.

10-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).