Medical Doctorate (M.D.) Degree Program and Courses Specifications for RADIO-DIAGNOSIS

Radiodiagnosis Department

Faculty of medicine

Aswan University

Contents

1- Program aims

1/1. Provide well trained, competent clinical radiologist capable of being appointed as and to undertake the duties of consultant radiologist

1/2. Develop the radiologist knowledge and skills that can be utilized to plan, deliver and evaluate diagnostic radiographic application within legal, ethical and professional framework.

1/3. Write a comprehensive report on radiological study with clinical- radiological interpretation and to deduce the correct diagnosis or the possible differential diagnosis.

1/4. Have a sufficient preliminary knowledge about the use of Computers and computer sciences in radiological

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

2/1Knowledge and understanding:

A. Demonstrate in-depth knowledge and understanding of theories, basics and updated biomedical, clinical epidemiological and socio – behavioral science relevant to Radio-diagnosis as well as the evidence – based application of this knowledge to patient care.
B. Explain basics, methodology, tools and ethics of scientific medical, clinical research.
C. Mention ethical, medico logical principles and bylaws relevant to his practice in the field of Radio-diagnosis.
D. Mention principles and measurements of quality assurance and quality improvement in medical education and in clinical practice of the Radio-diagnosis.
E. Mention health care system, public health and health policy, issues relevant to this speciality and principles and methods of system – based improvement of patient care in common health problems of the field of Radio-diagnosis.

2/2 Intellectual outcomes

A. Apply the basic and clinically supportive sciences which are appropriate to the Radio-diagnosis related conditions.

B. Demonstrate an investigatory and analytic thinking "problem – solving "approaches to clinical situation related to Radio-diagnosis.

C. Plan research projects.

D. Write scientific papers.

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

F. Plan for quality improvement in the field of medical education and clinical practice in Radio-diagnosis.

G. Create and innovate plans, systems, and other issues for improvement of performance in Radio-diagnosis.

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

I. Formulate management plans and alternative decisions in different situations in the field of the Radio-diagnosis

2/3 Skills

2/3/1 Practical skills (Patient Care)

Students will be able to:

A. Provide extensive level of patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

p.s. Extensive level means in-depth understanding from basic science to evidence – based clinical application and possession of skills to manage independently all problems in field of practice.

B. Provide extensive level of patient care ***for patients with all common diagnoses and for uncomplicated procedures*** related to Radio-diagnosis.

C. Provide extensive level of patient care ***for non-routine, complicated patients and under increasingly difficult circumstances***, while demonstrating compassionate, appropriate and effective care.

D. Perform diagnostic and therapeutic procedures considered essential in the field of Radio-diagnosis.

E. Handles unexpected complications, while demonstrating compassion and sensitivity to patient needs and concerns.

F. Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families in the Radio-diagnosis related situations**.**

G. Gather essential and accurate information about patients of the Radio-diagnosis related conditions.

H. Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-

to-date scientific evidence and clinical judgment for the Radio- diagnosis related conditions.

I. Develop and carry out patient management plans for Radio-diagnosis related conditions.

J. Counsel and educate patients and their families about Radio-diagnosis related conditions.

K. Use information technology to support patient care decisions and patient education in all Radio-diagnosis related clinical situations.

L. Perform competently all medical and invasive procedures considered essential for the Radio-diagnosis related conditions / area of practices.

M. Provide health care services aimed at preventing the Radio-diagnosis related health problems.

N. Lead health care professionals, including those from other disciplines, to provide patient-focused care in Radio-diagnosis related conditions**.**

O-Write competently all forms of patient charts and sheets including reports evaluating these charts and sheets (Write and evaluate a consultation note, Inform patients of a diagnosis and therapeutic plan, completing and evaluating comprehensive, timely and legible 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. Demonstrate continuous evaluation of different types of care provision to patients in the different area of Radio-diagnosis.
B. Appraise scientific evidence.
C. Continuously improve patient care based on constant self-evaluation and life-long learning.
D. Participate in clinical audit and research projects.
E. Practice skills of evidence-based Medicine (EBM).
F. Educate and evaluate students, residents and other health professionals.
G. Design logbooks.
H. Design clinical guidelines and standard protocols of management.
I. Appraise evidence from scientific studies related to the patients' health problems.
J. Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.
K. Use information technology to manage information, access on-line medical information; for the important topics.

Interpersonal and Communication Skills

L. Master interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals, including:-

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

M. Create and sustain a therapeutic and ethically sound relationship with patients.
N. Elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills.
O. Work effectively with others as a member or leader of a health care team or other professional group.

Professionalism

P Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.
Q. Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
R. Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

Systems-Based Practice

S. Work effectively in health care delivery settings and systems related to Radio-diagnosis including good administrative and time management.

T. Practice cost-effective health care and resource allocation that does not compromise quality of care.

U. Advocate for quality patient care and assist patients in dealing with system complexities.

V. Design, monitor and evaluate specification of under and post graduate course and programs.

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

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

Academic standards for Medical Doctorate (MD) degree in Radio-Diagnosis

Aswan Faculty of Medicine developed MD 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.

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 Board Review Course (ACR).http://www.acr.org/

Comparison between program and external reference		
Item	Radio-diagnosis	ACR Board Review Course
Goals	Matched	Matched
ILOS	Matched	Matched
Duration	4-6 years	Different
Requirement	Different	Different
Program structure	Different	Different
Out patient skills	Gained as part of radio-diagnosis Unit (Module), not as a separate course.	Gained as part of radio-diagnosis as a separate course.

5- Program Structure

A. Duration of program: 4-6 years

B. Structure of the program:

Total number of credit point = 420 CP

Master degree: 180 credit point

Didactic #: 37 (23.1%), practical 123 (76.9%), total 160 CP

Thesis and researches: 80 CP (33.3%)

First part

Didactic 10 CP (100 %), practical 0(0 %).total 10 CP

Second part

Didactic 24 , (16.3 %) practical 123 (83.7 %) total 147

According the currently applied bylaws:

Total courses:160 credit point

Compulsory courses: 157 credit point (98.1%)

Elective courses: 3 credit point (1.9%)

	Credit points	% from total
Basic science courses	10	4.1%
Humanity and social courses	3	1.2%
Speciality courses	147	61.3%
Others (Computer, …)		0
Field training	123	51.3%
Thesis	40	16.7%
2 published researches	40	16.7%

C- Program Time Table

Duration of program 4 years (could be extended at maximum to 6 years) divided into

- Part 1

Program-related Basic science courses
- Medical statistic
- Research methodology
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research

Students are allowed to sit the exams of these courses after 6 months from applying to the M D degree.
Students are allowed to sit the exams of the remaining Basic science courses after 12 months from applying to the MD degree.

- Thesis and 2 published researches

For the M D thesis;
MD thesis subject should be officially registered within 1 year from application to the MD degree,
Discussion and acceptance of the thesis should not be set before 24 months from registering the M D subject;
It could be discussed and accepted either before or after passing the second part of examination

- Part 2

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

Two elective courses can be set during either the 1st or 2nd parts.

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

Total degrees 1700 marks. 500 marks for first part 1200 for second part Written exam 40% - 70%.
Clinical/practical and oral exams 30% - 60%.

Curriculum Structure: (Courses):

Levels and courses of the program:

Courses and student work load list	Course Code	Core Credit points		
		didactic #	training	total
First Part				
Basic science courses (10 CP)				
Course 1: Medical Statistics and computer	FAC309A	1	-	1
Course 2: Research Methodology	FAC309B	1	-	1
Course 3: - Medicolegal Aspects & Ethics in Medical Practice and Scientific Research	FAC310C	1	-	1
Course 4: - Nuclear medicine	RAD327	3	-	3
Course 5: Recent Advance in different medical imaging techniques and its applications	RAD328A	4	-	4
Elective courses*	3 CP			
Elective course 1		1.5		1.5
Elective course 2		1.5		1.5
Thesis		40 CP		
Published researches**		40 CP		
Second Part	Speciality courses 24 CP Speciality Clinical Work (log Book) 123 CP			
Speciality Courses **Course 4 "radio-diagnosis.**	**RAD328B**		24	
Speciality Clinical Work (123 CP)	**RAD328B**			123
Total of second part		24	123	147

#Didactic (lectures, seminars, tutorial)

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

Student work load calculation:

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

Elective Courses#:

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

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

3. Thesis / Researches:

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

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

*Radio-diagnosis Course

Units' Titles' list	% from total Marks
1) Unit (Module) 1 Genitourinary tract.	12%
2) Unit (Module) 2 MSK system	15%
3) Unit (Module) 3 Chest and cardio-vascular system	15%
4) Unit (Module) 4 Gastrointestinal tract	14%
5) Unit (Module) 5 Neuroradiology, head and neck.	16%
6) Unit (module) 6 Pediatric radiology	6%
7) Unit (Module) 7 US.	8%
8) Unit (Module) 8 Emergency radiology	8%
9) Unit (Module) 9 Interventional radiology	3%
10) Unit (module) 10 Breast radiology	3%
Total No. of Units: (10)	**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
Annex 6 II: Program Matrix

7-Admission requirements

- **Admission Requirements (prerequisites) if any :**
  - **I. General Requirements:**
    - **Master degree in the Radio-diagnosis.**
  - **II. Specific Requirements:**

- **Fluent in English (study language)**

VACATIONS AND STUDY LEAVE

The current departmental policy is to give working assistant lecture 3 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 (Medical statistic, Research methodology and Medicolegal Aspects and Ethics in Medical Practice and Scientific Research) could be set at 6 months from registering to the MD degree.
- Students are allowed to sit the exams of the remaining Basic science courses of the first part after 12 months from applying to the MD degree.
- Examination of the second part cannot be set before 4 years from registering to the degree.
- Discussion of the MD thesis could be set after 2 years from officially registering the MD subject, either before or after setting the second part exams.
- The minimum duration of the program is 4 years.

<u>The students are offered the degree when:</u>

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 MD thesis.

4. Acceptance or publication of one research from the thesis in international indexed medical journals or publication of 2 researches from the thesis in local specialized medical journals.

9-Program assessment methods and rules (Annex IV)	
Method	**ILOs measured**
Written examinations: **Structured essay questions** **Objective questions** **MCQ** **Problem solving**	**K & I**
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 and/or Practical Exam		Total
First Part					
Basic science courses:					
Statistics and computing	FAC309A	35	15	-	50
Research Methods	FAC309B	35	15	-	50
Medical reports and medical ethics	FAC310C	35	15	-	50
Course 4: - Nuclear medicine	RAD327	90	60	-	150
Course 5: Recent Advance in different medical imaging techniques and its applications	RAD328A	80	60	60	200
Total of first part					500
Second Part					
	Course code	Written	oral*	Clinical and practical	total
Speciality Courses		480			
1- Course 4 "Radio-diagnosis" Paper 1 Paper 2 Paper 3 Paper 4	RAD328B	 120 120 120 120	36	360	
Total		480	360	360	1200
Elective course 1		50	50		100
Elective course 2		50	50		100

* 25% of the oral exam for assessment of logbook

Total degree 1900

500 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 2 hours in Medical Statistics and Research Methodology + oral examination
- Written exam 1 hours in Medicolegal Aspects and Ethics in Medical Practice and Scientific Research + oral examination
- Written exam 2 hours in Nuclear Medicine + Oral exam
- Written exam 3 hours in Recent Advance in different medical imaging techniques and its applications + Oral exam+ Practical exam

Second part:

- Written Exam 4 papers 3 hours for each in Radio diagnosis + Oral exam + Practical exam
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Elective courses

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

10-Program evaluation

By whom	Method	Sample
Quality Assurance Unit	Reports Field visits	#
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	#