



توصيف برنامج دبلومة
(عام 2013-2014)

Basic information

* معلومات أساسية :

1 - اسم البرنامج : Diploma of radiodiagnosis

2 - طبيعة البرنامج : (مشترك)

3 - الأقسام المسؤولة عن البرنامج:

• Radio-diagnosis
• General medicine, general surgery, pathology & statistics department

4- تاريخ إقرار البرنامج فى مجلس القسم 3 / 9 / 2013

5- تاريخ إقرار البرنامج فى مجلس الكلية 306 : 15 / 9 / 2013

6- مسئول البرنامج: **Ass. Prof. Hesham Farouk Hefny**

(Assistant professor of radiodiagnosis- Benha university)

7- المراجع الداخلى: **Prof. Tamer Ahmed Kamal**

(Professor of radiodiagnosis- Benha university)

8- المراجع الخارجى: **Prof. Magdy seteen**

(Professor of radiodiagnosis-Mansoura university)

Professional information

* معلومات متخصصة :

1 - الأهداف العامة للبرنامج :

1- Program aims:

The overall aims of the program are *to develop a clinical radiologist aware*



of:

- 1.a. Basic scientific knowledge of methods of scientific research.
- 1.b. Continuous scientific work in radiology.
- 1.c. Scientific analysis and criticism of knowledge in radiology and related branches.
- 1.d. Integrating scientific knowledge in radiology and other related branches to detect and develop relations between them.
- 1.e. The current radiology problems and new methods for diagnosis.
- 1.f. Using appropriate technology for practice.
- 1.g. Taking active role in the community and saving environment.
- 1.h. Ethical medical behavior.
- 1.i. Continuous self development and transferring knowledge and experiences to others.

٢ - المخرجات التعليمية المستهدفة من البرنامج :

2-Intended Learning Outcomes (ILOS):

٢.أ - المعرفة والفهم :

2.a. Knowledge and Understanding

On successful completion of the program, the graduate will be able to:

- 2.a.1 Recognize the basic radiological knowledge including principles of physics, radiobiology, radiological anatomy, positions and imaging techniques.
- 2.a.2 Discuss clinical medical, surgical and pathological basis related to diagnostic radiology.
- 2.a.3 Develop skills and methodology necessary to perform research.
- 2.a.4 Identify and discuss different diagnostic modalities in diagnostic radiology.
- 2.a.5 Recognize basic concepts of radiological techniques, indications, contraindications, potential complications of radiological procedures and their management.
- 2.a.6 Distinguish the basic radiological appearances of different pathologies.
- 2.a.7 Categorize the differential diagnosis of the different radiological pathologies.
- 2.a.8 Understand morals and ethics of the scientific research.
- 2.a.9 Know the basic principles of quality control in professional practice in radiology.

٢.ب - القدرات الذهنية :

2.b. Intellectual Skills:-

On successful completion of the program, the graduate will be able to:



- 2.b.1 . Review published articles critically and to perform effective literature searches on a given topic.
- 2.b.2 . Conduct clinic-radiological conferences and multidisciplinary meetings.
- 2.b.3 . Conduct scientific research efficiently.
- 2.b.4 . Adapt their cognitive and observation skills to enable accurate interpretation of the various medical imaging modalities employed in modern radiology.
- 2.b.5 . Interpret the effective application of research findings in everyday practice.
- 2.b.6 . Develop significant problem-solving abilities in the scientific research and every day practice.
- 2.b.7 . Classify the possible complications associated with different radiological procedures.

٢.ج . مهارات مهنية وعملية :

2.c. Practical & professional Skills:-

On successful completion of the program, the graduate will be able to:

- 2.c.1. Participate in reporting different radiological examinations, which are taken during the general throughput of the normal working day of the department of radiodiagnosis.
- 2.c.2. Specify appropriate diagnostic modality for different lesions.
- 2.c.3. Perform different radiological procedures and dealing with different associated complications efficiently.
- 2.c.4. Apply up to date with new developments in imaging.
- 2.c.5. Plan for their radiological career in short and long term.

٢.د . مهارات عامة ومنتقلة:

2.d. General and transferable skills:-

By the end of this program, the graduate will be able to:

- 2.d.1. Cooperate and communicate with his colleagues and staff.
- 2.d.2. Convey sound patient relationship (obtaining consent, respecting confidentiality and maintaining trust).
- 2.d.3. Apply methods of active learning.
- 2.d.4. Do good control of time.
- 2.d.5. Evaluate self performance and continue to learn.



2.d.6. Use advanced methods and new technology in upgrading his professional performance.

٣ - المعايير الأكاديمية للبرنامج :

3. Academic Standards:

Academic standards for the diploma program are approved in department council 7/6/2013 & faculty council in 16/6/ 2013.N0 (354)

(ملحق ١)

٤ - العلامات المرجعية :

4. References standards

المعايير القياسية العامة لبرامج الدراسات العليا (درجة الدبلوم) الصادرة عن الهيئة القومية لجودة التعليم والإعتماد (مارس ٢٠٠٩)

Academic reference standards (ARS) , diploma Program (March 2009)

Which were issued by the National Authority for Quality Assurance & Accreditation of Education (NAQAAE) (ملحق ٢)

(5): Program structure and contents : هيكـل ومكونات البرنامج :

أ - مدة البرنامج : Program duration

- + 3 semesters (1.5 years)
- + 1st part: - One Semester (6 months).
- + 2nd part: - Two Semester (1 year).

ب - هيكـل البرنامج : Program structure

- Total hours of program 36 credit hours
- Theoretical: 14 credit hours
- Practical: 10 credit hours
- University and faculty requirements: 6
- Logbook: 6



توصيف برنامج دبلومة



المعمدة	الساعات	الكود	المقررات	البند
6 ساعات	UNIV 501		للجامعة والكلية	متطلبات
6 ساعات			يشمل الآتي:	الجزء الأول نظري وعلمي
2 ساعة	RAD 501	Radiation Physics	مقرر علمي وعملي في الفيزياء الإشعاعية	
1 ساعة	RAD 503	Radiological Anatomy	مقرر علمي وعملي في التشريح الراديولوجي	
1 ساعة	RAD 504	Dark room principles	قواعد الغرفة المظلمة	
1 ساعة	RAD 505	Radio-Biology and nuclear medicine	مقرر علمي وعملي في بيولوجية الإشعاع والطب النووي	
1 ساعة	RAD502	statistics	مقرر علمي وعملي في الاحصاء	
6 ساعات			حضور الإجتماع الأسبوعي لقسم الأشعة والإجتماع الموسع مع التخصصات المختلفة والدورات التدريبية بقسم الأشعة وحضور مناقشة 6 رسائل حضور مؤتمر الكلية	كراسة الأنشطة
18 ساعة			يشمل الآتي:	الجزء الثاني
14 ساعة	RAD 506	3 months shifts in Different units: Neuroradiology Head & Neck radiology Musculoskeletal rad. Cardiothoracic rad. Gastrointestinal rad. Genitourinary rad. Vascular imaging and intervention. Breast imaging	مقرر علمي وإكلينيكي في التشخيص بالأشعة	
3 ساعات	RAD 507		مقرر علمي وإكلينيكي في الأسس الإكلينيكية للجراحة والباطنة	



١ ساعة	RAD 508		الباثولوجيا مقرر علمي وعملي	
٣٦ ساعة				

ج- مستويات ومقررات البرنامج:

First part (15 weeks duration/6months)

a- Compulsory courses:

Course Title	Course Code	NO. of hours per week			Total teaching hours
		Theoretical Lectures	Seminars	Laboratory /practical	
•Radiation physics	RAD501	1		1	30
•Radiological anatomy and technology	RAD503	0.5		0.5	15
•Raiobiology and nuclear medicine	RAD 505	0.5		0.5	15
•Statistics	RAD 502	0.5		0.5	15
*dark room principles	RAD504	0.5		0.5	15



Log book activities		6	6
Total:			96 hours

b- Elective courses: none

c- selective : none

Second part (30 weeks duration/12 months)

a- Compulsory courses:

Course Title	Course Code	NO. of hours per week			Total	Total teaching hours weeks
		Theoretical Lectures	Laboratory seminars /practical			
•Radiodiagnosis	(RAD 506)	7	4	3	14	420
•Clinical bases of medicine and surgery	(RAD 507)	2		1	3	90
•Pathology	(RAD508)	0.5		0.5	1	30
Total:						540

b- Elective courses: none

c- selective : none

- محتويات المقررات: (راجع توصيف المقررات)

٧ - متطلبات الإلتحاق بالبرنامج : Program admission requirements



مادة (٤): يشترط في قيد الطالب لدرجة الدبلومة:

(١)

- أ- أن يكون حاصلًا على درجة البكالوريوس في الطب والجراحة من إحدى جامعات ج.م.ع أو على درجة معادلة لها من معهد علمي معترف به من الجامعة بتقدير جيد على الأقل.
- ب- يسمح للحاصل على الدبلوم وفقا لنظام هذه اللائحة وبتقدير جيد على الأقل بتسجيل رسالة لاستكمال درجة الماجستير بشرط ألا يكون قد مر أكثر من ثلاث سنوات على تاريخ حصوله على درجة الدبلوم وبغض النظر على تقديره في درجة البكالوريوس.
- ت- يسمح للحاصل على الدبلوم وعلى خلاف لنظام هذه اللائحة أن يسجل لدرجة الماجستير بشرط أن يكون تقديره في الدبلوم لا يقل عن جيد وبغض النظر عن تقديره في البكالوريوس.

(٢) أن يكون قد أمضى السنة التدريبية أو ما يعادلها (سنة الامتياز)

(٣) أن يتفرغ للدراسة لمدة سنة على الأقل في الجزء الثاني (فصلين دراسيين)

مادة (٥): يكون التقدم للقيود لدرجة الدبلومة مرة واحدة في السنة خلال شهري يوليو وأغسطس من كل عام.

• تبدأ الدراسة لدرجة الدبلومة في شهر أكتوبر من كل عام.

٨ - القواعد المنظمة لإستكمال البرنامج :

مادة (٦): تتولى لجنة الدراسات العليا بالكلية عن طريق لجنة تشكل لكل تخصص من أعضاء مجلس القسم التابع له المادة والقسم المانح للدرجة وضع البرنامج التفصيلي للمقررات في حدود الساعات المعتمدة الواردة باللائحة وعند الاختلاف يتم الاسترشاد بمقررات جامعة القاهرة ومقررات الشهادات العالمية الاوربية والامريكية يعتمدها مجالس الأقسام ثم يقرها مجلس الكلية وتشمل هذه الساعات محاضرات نظرية ودروس عملية وتدريب اكلينيكي ومحاضرات وندوات مشتركة.

مادة (٧): يشترط في الطالب لنيل درجة ماجستير التخصص في أحد الفروع الاكلينيكية والعلوم الطبية الأساسية:



- أ- حضور المقررات الدراسية والتدريبات الاكلينيكية والعملية والمعملية بصفة مرضية طبقا للساعات المعتمدة.
- ب- أن يقوم بالعمل كطبيب مقيم أصلى أو زائر لمدة سنة على الأقل فى قسم التخصص بالنسبة للعلوم الاكلينيكية.
- ت- أن ينجح فى امتحان القسمين الأول والثانى.
- ث- اجتياز الطلب لثلاث دورات فى الحاسب الآلى (دورة فى مقدمة الحاسب – دورة تدريبية متوسطة – دورة فى تطبيقات الحاسب الآلى) وذلك قبل مناقشة الرسالة.
- ج- اجتياز اختبار التوفيل بمستوى لا يقل عن ٤٠٠ وحدة وذلك قبل مناقشة الرسالة.
- ح- أن يقوم باعداد بحث فى موضوع تقره الجامعة بعد موافقة مجلس القسم ومجلس الكلية ينتهى باعداد رسالة تقبلها لجنة التحكيم.

- Students Assessment Methods

٩- طرق وقواعد تقييم الملتحقين بالبرنامج

م	الطريقة	ما تقيسة من مخرجات التعلم المستهدفة
1	Written examination	To assess knowledge and understanding, & intellectual skills: From 2.a.1-2.a.6 and from 2. b.1-2.b.6
2	Oral examination	To assess knowledge and understanding & intellectual skills & General and transferable skills 2. a.1-2.a.6. 2.b.1-2.b.6 2.d.1-2.d.8.
3	Practical & clinical examination	To assess knowledge and understanding & intellectual skills & practical and professional skills & General and transferable skills: 2. a.1-2.a.6 , 2.b.1-2.b.6, 2.c.1-2.c.4, 2.d.1-2.d.8.



Final exam.

First part

إجمالي	الدرجة				الاختبار	المقرر
	إكلينيكي	عملي	نقسي	تحريري		
100				100	اختبار تحريري مدته ثلاث ساعات + اختبار اختار من متعدد	Radiation physics (RAD601)
100		25	25	50	اختبار شفوي وعملي وتحريري	Radiological anatomy and technology (RAD 602)
100			20	50	اختبار تحريري و شفوي	Radiobiology an nuclear medicine and statistics (RAD 603- RAD 604)
300	إجمالي الدرجة					

Second part

إجمالي	الدرجة				الاختبار	المقرر
	عملي	إكلينيكي	نقسي	تحريري		
500	150		100	250	اختبار شفوي و تحريري وعملي	Raiodiagnosis (RAD 606)
35		7.75	8.75	17.5	اختبار شفوي و تحريري وإكلينيكي باطنة	•Clinical bases of medicine and surgery (RAD 607)
35		7.75	7.75	17.5	اختبار شفوي و تحريري وإكلينيكي جراحة	
30	7.5		7.5	15	اختبار شفوي و تحريري وعملي	•Pathology (RAD 608)
600	إجمالي الدرجة					



١٠ Evaluation of Program:

- طرق تقويم البرنامج:

Evaluator	Tools	Signature
Internal evaluator (s) مقيّم داخلي Prof.dr.ahmed farid (Professor of radiodiagnosis- Benha university)	Report	<u>1 report</u>
External Evaluator (s) مقيّم خارجي Prof. Magdy seteen Professor of radiodiagnosis- Mansoura university)	report.	<u>I report</u>
Senior student (s) طلاب السنة النهائية	Questionnaire	<u>40%</u>
Alumni الخريجون	Questionnaire	<u>50%</u>
Stakeholder (s) أصحاب العمل	interviews	<u>Representative sample from sectors</u>
Others طرق أخرى	None	

التاريخ: / /

التوقيع:

المسؤول عن البرنامج:

Program coordinator:

Name Dr:

signature:

Date:



توصيف المقررات

Program courses

Benha University
Faculty of Medicine
Department of Diagnostic Radiatology.

Course Specification

Course title: Radiodiagnosis

(Code): RAD 504

Academic Year (2013 – 2014)

- **Department offering the course:** Diagnostic radiology Department
- **Academic year of** Diagnostic radiology Diploma.
- **Major or minor elements of the program:** Major
- **Academic level:** 2nd part.
- **Date of specification approval:**
 - Department council date 9/9/2013
 - Faculty council date 15/9/2013

A) Basic Information:

- **Allocated marks:** 500 marks
- **Course duration:** 30 weeks of teaching
- **Teaching hours:** 14 hours/week = 420 total teaching hour

	Total hours
1- Lectures	330
2- Practical	90
Total	420

B) Professional Information:



1- Overall Aim of the Course:

The overall aims of the course are:

- a) having an appropriate radiological background covering the common and important emergencies and diseases.
- b) Accepting the graduate the essential skills needed for practice radiodiagnosis.

2- Intended Learning Outcomes (ILOs):

2.a. Knowledge and understanding:

By the end of the course, students should be able to:

- 2.a.1. List manifestation of diseases of different body systems demonstrated by conventional radiograph & US.
- 2.a.2. Mention the manifestation of diseases of different body systems demonstrated by CT & MRI.
- 2.a.3. Describe application of radionuclide investigation to different body systems pathology.
- 2.a.4. Discuss the application, risk & contraindication of the technique of image guided biopsy of different body systems.

2.b. Intellectual Skills:

By the end of the course, students should be able to:

- 2.b.1. Classify different medical disorders.
- 2.b.2. Differentiate the current and advanced diagnostic imaging modalities and their application in medicine for diagnosis and treatment
- 2.b.3. Select the proper radiological modality for diagnosis of different medical disorders.
- 2.b.4. Interpret and able to write a comprehensive report on a radiological study with clinico- radiological interpretation to deduce the correct diagnosis or the possible differential diagnosis.

2.c. Practical and Clinical Skills:

By the end of the course, students should be able to:

- 2.c.1. Construct a proper history for the patient.
- 2.c.2. Interpret the patient data (history and imaging finding) in an organized and informative manner.
- 2.c.3. Perform Procedural Skills (special procedures).
- 2.c.4. Carry out the basic US and Doppler scanning.



2.d. General and transferable Skills:

By the end of the course, students should be able to:

- 2.d.1. Consider communication skills with patients.
- 2.d.2. Able to conduct a research work and to get benefit of the published scientific researches, and to present a short talk on an assigned topic.
- 2.d.3. Understand the importance of team working and peer teaching.
- 2.d.4. Able to communicate and keep pace with radiologists abroad.
- 2.d.5. Prepared to acquire & apply the recent trends in Radiology whenever available.

3- Course contents:

Subject	Lectures (hrs)	% of Total
1- Spine	25	5.9
2- Neuroradiology	50	11.9
3- Radiology of head and neck	30	7.1
4- Radiology of chest	50	11.9
5- Musculoskeletal radiology	50	11.9
6- Gastrointestinal radiology	50	11.9
7- Genitourinary radiology	35	8.3
8- Vascular imaging	25	5.9
9- Breast imaging	15	3.6
10- Paediatrics imaging	40	9.5
11- Interventional radiology	15	3.6
12- Cardiac radiology	35	8.3
Total	420	100

4- Teaching and learning methods:

METHODS USED:

- Modified lectures.
- Small group discussions.
- Problem solving.
- Practical classes.



5- Students Assessment methods:

5-A) **ATTENDANCE CRITERIA:** Faculty bylaws

5-B) **Assessment Tools:**

Tool	Purpose (ILOs)
Written examination	To assess knowledge
Oral examination	To assess knowledge, intellectual skills & general skills
Practical examination	To assess Practical and Clinical Skills

5-C) **TIME SCHEDULE:** Faculty bylaws

Exam	Week
- written	Thirty one week
- oral	Thirty two week
- practical & clinical	Thirty three week

5-D) **Weighting System:**

Examination	Marks allocated	% of Total Marks
Written (long assay)	250	50
Oral	100	20
Practical	150	30
Total	500	100%

- The minimum passing & Passing grades (60%).

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) **Examinassions description:**

Examination	Description
a- Written	e.g. MCQs, shorts assay, long essay.
b- Practical	e.g. Do, identify
c- Oral	e.g. indentify, describe

6- List of references:



6.1- Basic materials:

No

6.2- Essential books (text books):

-**Text Book of Radiology and Imaging** by: David Sutton.

-**Clinical sonography** by Roger C. Sanders.

-**Differential diagnosis in computed tomography** by Francis A Burger and Martti Kormano.

-**Aids to radiological differential diagnosis** by Stephen Chapman and Richard Nakielny.

6.3- Recommended books:

-**Grainger-Allisons-Diagnostic-Radiology.**

-**Diagnostic imaging series.**

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls:
- Information technology / AV aids.
- Small group classes
- C.T. Workstation.
- Department archive.

Course coordinator: Dr.Hesham Farouk

Head of Department: Prof. Medhat Refaat

Date: 9 / /2013



Benha University
Faculty of Medicine

Diploma degree of_ *Department of Pathology.*
radiology_____.

Course Specification

Course title: Human Pathology for : diploma degree of radiology

(Code): _____(RAD 508)

Academic Year (2013 – 2014)

- **Department offering the course:** Human Pathology Department
- **Academic year of (diploma degree radiology) program: 2013 – 2014**
- **Major or minor elements of the program: major**
- **Academic level: 2nd part**
- **Date of specification approval:**
 - Department council date 7/9/2013
 - Faculty council date 15/9/2013



A) Basic Information:

- **Allocated marks:** 30 marks
- **Course duration:** 30 weeks of teaching
- **Teaching hours:** 1 hours/week = 30 total teaching hours
-

	Hours / week	Total hours
1- Lectures	0.5	15
3- Practical	0.5	15
Total	1	30

B) Professional Information:

1- Overall Aim of the Course:

The overall goals of the course are to

- 1.1. Good application of basic pathological knowledge essential for the practice of Radiology
- 1.2. providing basic and specialized services in relation with biopsy diagnosis in the practice of medicine and investigations.
- 1.3. Application of special knowledge & its integration with others that have relation with the special practice
- 1.4. Awareness of the running problems as early tumor detection and diagnosis of gastrointestinal system and related systems
- 1.5. Diagnosis of practical problems as cases study and clinical assessments
- 1.6. Having fundamental knowledge of medical disciplines related to their clinical applications & able to use different technological tools as computer in the field of Radiology
- 1.7. Having acquired competency to be teacher, trainer, researcher and leader in the field.
- 1.8. Diagnosis, problem solving and decision making skills necessary for proper evaluation and management.
- 1.9. development of recent tools & ways essential for medical practice.
- 1.10. Awareness of his role in the progress of society and govern the environment in the light of international & local changes.
- 1.11. honesty and respect the practical rules.
- 1.12. Lifelong learning competencies necessary for continuous professional development.

2- Intended Learning Outcomes (ILOs):

2.a. Knowledge and understanding:

By the end of the course, students should be able to:

- 2.a.1 discuss different types of biopsies.



2.a.2. describe laws in relation to the practical work, medical practice and be acquainted with related relevant amendments and also related judgments passed by constitutional courts .

2.a.4 Describe the clinical manifestations and differential diagnosis of common pathological cases.

2.a.5. Describe the scientific basis and interpretation of various diagnostic modalities essential for Radiology

2.1.6. define the principles that govern ethical decision making in clinical practice as well as the pathological aspect of medical malpractice.

2.a.7. define ethics of medical research.

2.a.8. Identify basic knowledge & theories needed to support literature retrieval and further research capabilities.

2.b. Intellectual Skills:

By the end of the course, students should be able to:

2.b.1. solve problem and make decision skills necessary for proper evaluation and management.

2.b.2. analyze the risky problems that could be met during taking biopsies .

2.b.3. Combine the clinical and investigational database to be proficient in clinical problem solving.

2b.4. Plan for performance development in his practice.

2.b.5. Select the most appropriate and cost effective diagnostic procedures for each problem.

2.b.7. Formulate of research hypothesis & questions.

2.b.8. Adopt the questioning approach to own work & that of others to solve clinical problems

2.c. Practical and Clinical Skills:

By the end of the course, students should be able to:

2.c.1. diagnose and evaluate of cases and investigation.

2.c.2. diagnose and interpret all important pathological aspects for early cancer detection and assessment.

2.c.3. recognize the gross examination and able to describe the findings of different human body systems efficiently

2.c.4. Diagnose and manage different cases

2.c.5. write a report like cancer assessment report, cytological report and immunohistochemical report.

2.d. General and transferable Skills:

By the end of the course, students should be able to:

2.d.1. Work effectively as a member or a leader of an interdisciplinary team and

2.d.2. Able to put rules & regularities for evaluation of performance of others.

2.d.3. Establish life-long self-learning required for continuous professional development

2.d.4. Use the sources of biomedical information and communication technology to



remain current with advances in knowledge and practice.

2.d.5. Do self criticism. .

2.d.6. Retrieve, manage, and manipulate information by all means, including electronic means.

3- Course contents:

Topic	Number of hours		
	Total	Lectures	Practical/ small groups
General Pathology	7-1/2Hrs	2-1/2hrs	5 hrs
Cell response to injury, Stem cells and repair, Tissue deposits	1-1/2	1/2	1
Inflammation ,Granulomas ,Viral diseases	2	1/2	1-1/2
Disturbance of growth Neoplasia, Developmental and genetic diseases	1-3/4	3/4	1
Circulatory disturbances, Radiation Basic imunopathology	1-1/2	1/2	1
Diagnostic methods in pathology	3/4	1/4	1/2
Special Pathology	15hrs	5hrs	10hrs
Diseases of the Cardiovascular system	3/4	1/2	1
Diseases of the respiratory system	3/4	1/2	1
Diseases of the urinary system :	3/4	1/2	1
Diseases of the gastrointestinal tract	1-1/4	1	2
Diseases of the Liver , gall bladder, pancreas	1-1/2	1-1/4	2-1/2
Diseases of the lymphatic system, spleen , blood	3/4	1/2	1/2



Diseases of musculoskeletal system	1/4	1/4	1/2
Diseases of the Endocrine:	1/2	1/2	1
	22-1/2	7-1/2	15

4- Teaching and learning methods:

Modified Lectures

1. Small group discussions
2. Problem solving.
3. Self learning

4. -General lectures & interactive learning.
- 5-Small group discussions and case studies
- 6-Practical sessions

- a- Histopathology slide lab
- b- Museum of pathology.

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment Tools:

Tool	Purpose (ILOs)
Written examination	To assess knowledge
Oral examination	To assess knowledges,intellectual skills& general skills
Practical examination	To assess practical &clinical skills

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
2- First part: - written - oral - practical & clinical	At the end of the course



3- Second part: - written - oral - practical & clinical	
4- Thesis	
4- Assignments & other activities	

5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
1- Second part: a- Written	15	50%
c- Oral	15	50%
2- Thesis		
4- Assignments & other		
Total		

- The minimum passing & Passing grades (Faculty bylaws).

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinations description:

Examination	Description
1- <u>Second part:</u> a- Written b- Practical c- Oral	e.g. MCQs, shorts assay, long essay, case reports, problem solving..... e.g. Do, identify e.g. How many sessions
3- <u>Thesis:</u>	
6- Assignments & other activities	e.g. Assignments, projects, practical books etc
Total	

6- List of references:

- 1- 6.1- Departmental books of General and Special histopathology, available in secretary office.
- 2- Handouts updated, administered by staff members
- 3- Museum notebook.
- 4- CDs for histopathological slides and museum specimens are available at the department.



6.2- Essential books (text books)

- Rosai and Ackerman's Surgical Pathology Juan Rosai, Mosby 2004
- Sternberg's Diagnostic surgical Pathology 4^{U1} edition, Lippincott Williams and Wilkins
- Kumar V ,Abbas AK ,Fausto N:Robbins and Cotran Pathologic Basis of Disease ,7th ed.;2005, Elsevier Saunders. Available at faculty bookshops & main library.

6.3- Periodicals, Web sites, ... etc

<http://www.pathmax.com/> <http://www-medlib.med.utah.edu/WebPath/LABS/LABMENU.html#2>
<http://www.med.uiuc.edu/PathAtlasf/titlePage.html>
<http://www.medscape.com/pathologyhome>
<http://www.gw> hyperlink <http://umc.edu/dept/path/2>
umc.edu/dept/path/2F

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls:
- Small group classes
- Laboratory
- Information technology / AV aids
- Data show
- Overhead projector
- Museum specimens
- Projector slides covering available slides in slide box

5. surgical specimens

Course coordinator: Prof. Hala Adel Agina

Head of Department: prof Abdelatef Mohamed Elbalshy

Date: 7 / 9 /2013



Benha University
Faculty of Medicine
Department of Diagnostic Radiology.

Course Specification

Course title: Radiological anatomy & radiation technique

(Code): RAD 503

Academic Year (2013 – 2014)

- **Department offering the course:** Diagnostic radiology Department
- **Academic year of** Diagnostic radiology Diploma.
- **Major or minor elements of the program:** Major
- **Academic level:** 1st part.
- **Date of specification approval:**
 - Department council date 9/9/2013
 - Faculty council date 15/9/2013

A) Basic Information:

- **Allocated marks:** 200 marks
- **Course duration:** 30 weeks of teaching
- **Teaching hours:** 1 hours/week = 30 total teaching hours



	Hours / week	Total hours
1- Lectures	0.5	15
3- Practical	0.5	15
4- Others	-----	-----
Total	1	30

B) Professional Information:

1- Overall Aim of the Course:

The overall goal of the course is to make the students by the end of the course be aware of the normal anatomy of different body systems demonstrated by Plain X-ray, US, CT and MRI. Also be aware of the technical skills needed in contrast medial different examinations.

2- Intended Learning Outcomes (ILOs):

2.a. Knowledge and understanding:

By the end of the course, students should be able to:

- 2.a.1. describe the anatomy and anatomical variants relevant to radiological examinations. In addition, knowledge of topographical anatomy as demonstrated by modern imaging techniques.
- 2.a.2. discuss the techniques routinely used including principal indications and contraindications, patient preparation, equipment, contrast media, technique variations for specific indications and principal complications and their management.
- 2.a.3. explain the commonly used contrast media, including those used in ultrasound and MR imaging, modes of administration and clinical uses, routes of elimination, contraindications, side effects, reactions and their management.

2.b. Intellectual Skills:

By the end of the course, students should be able to:

- 2.b.1. interpret normal anatomy and different anatomical variations and their significant clinical implications.
- 2.b.2. Differentiate the current and advanced diagnostic imaging modalities and their application in medicine for diagnosis and treatment
- 2.b.3. Select the proper radiological modality for diagnosis of different medical disorders.



2.c. Practical and Clinical Skills:

By the end of the course, students should be able to:

- 2.c.1. Perform contrast media related examinations.
- 2.c.2. Management of contrast media complications.
- 2.c.2. Evaluate the quality of the plain X-ray.
- 2.c.3. Simulate basic plain X-ray positions.

2.d. General and transferable Skills:

By the end of the course, students should be able to:

- 2.d.1. Work effectively in a group during preparation of seminars.
- 2.d.2. Respects the role of staff and co-staff members regardless of degree or occupation.

3- Course contents:

Subject	Lectures (hrs)	% of Total
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Technology of imaging	10	33 %
<ul style="list-style-type: none">- Types of contrast media.- GIT(barium study) techniques.- Barium Swallow.- Barium meal.- Barium follow-through.- Barium enema.-Liver, biliary tract and pancreas techniques.-Techniques of chest examination.-Techniques of urinary tract.-Techniques of reproductive system.-Techniques of bone and joints.-Techniques of arterial system.-Techniques of venous system.-Techniques of lymphatic system.-Techniques of brain examination.-Techniques of bone examination.-Imaging techniques of respiratory system.-Interventional techniques.-Interventional techniques of chest.-Angiography.-Techniques of breast imaging.-Techniques of abdominal imaging.-Techniques of nose and PNS imaging.-Techniques of neck imaging.-PET.-Nasopharynx imaging techniques.-Imaging techniques of liver.-Interventional liver techniques.-CNS angiography techniques.-Interventional techniques of head.- Skull positioning.-Upper limb positioning.-Lower limb positioning.-Abdomen positioning.-Spine positioning.-Orbit positioning.		



Radiological Anatomy

20

66%

- An introduction to the technology of imaging
- How to interpret an image
- The thorax
- The chest wall and ribs
- The breast
- The abdomen
- The renal tract, retroperitoneum and pelvis
- The head, neck, and vertebral column
- The skull and brain
- The eye
- The ear
- The extracranial head and neck
- The vertebral column and spinal cord
- The limbs
- The upper limb
- The lower limb
- Developmental anatomy
 - Obstetric imaging
 - Pediatric imaging
- CT anatomy brain.
- MRI anatomy brain.
- CT anatomy of supra-renal glands.
- Plain X-ray chest anatomy.
- Plain X-ray, CT anatomy of the spine.
- Sectional anatomy of abdomen.
- Skull anatomy.
- Female genital system anatomy.
- Radiological anatomy of chest.
- Normal cardiac anatomy.
- CNS angiography anatomy.
- MRI knee anatomy.
- MRI shoulder anatomy.
- MRI ankle anatomy.
- Anatomy of hip and sacroiliac joints.
- Elbow joint MR anatomy.
- Petrous bone anatomy.
- Sella turcica anatomy.
- Skull base anatomy.
- Joints anatomy.
- Nasopharynx anatomy.
- Neck spaces anatomy.
- Oral cavity, salivary glands anatomy.
- Anatomy of liver.

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-Maxillofacial anatomy.



Total	60	100
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4- Teaching and learning methods:

METHODS USED:

- Modified lectures.
- Small group discussions.

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment Tools:

Tool	Purpose (ILOs)
Written examination	To assess knowledge
Oral examination	To assess knowledge, intellectual skills & general skills
Practical examination	To assess Practical and Clinical Skills

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
5- First part: - written - oral - practical & clinical	At the end of course
6- Second part: - written - oral - practical & clinical	
7- Thesis	
4- Assignments & other activities	

5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
Written (long assay)	50	50
Oral	25	25
Practical	25	25
Total	100	100%



- The minimum passing & Passing grades (60%).

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinations description:

Examination	Description
a- Written	e.g. MCQs, shorts assay, long essay.
b- Practical	e.g. Do, identify
c- Oral	e.g. indentify, describe

6- List of references:

6.1- Basic materials:

No

6.2- Essential books (text books):

-**Imaging Atlas of Human Anatomy** by Jamie Weir and Peter H Abrahams.

-**Clark's Positioning in Radiography** by A.Stewart Whitley , Charles Sloane , Graham Hoadley , Adrian D. Moore , Chrissie W. Alsop.

- **Chapman's Radiological Technique.**

6.3- Recommended books:

- **Anatomy For Diagnostic Imaging** by Ryan S, McNicholas M and Eustace S, 2nd ed, Saunders/ El-Sevier.

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls:
- Information technology / AV aids.
- Small group classes

Course coordinator: Dr.Hesham Farouk

Head of Department: Prof. Medhat Refaat

Date: 9/9/2013



Benha University
Faculty of Medicine
Department of Diagnostic Radiology.

Course Specification

Course title: Radiobiology & nuclear medicine

(Code): RAD 505

Academic Year (2013 – 2014)

- **Department offering the course:** Diagnostic radiology Department
- **Academic year of** Diagnostic radiology Diploma.
- **Major or minor elements of the program:** Major
- **Academic level:** 1st part.
- **Date of specification approval:**
 - Department council date 9/9/2013
 - Faculty council date 15/9/2013

A) Basic Information:

- **Allocated marks:** _____ 35 _____ marks
- **Course duration:** 30 weeks of teaching
- **Teaching hours:** 1 hours/week = 30 total teaching



hours

	Hours / week	Total hours
1- Lectures	1	30
Total	1	30

B) Professional Information:

1- Overall Aim of the Course:

The overall aim of this course is to provide the candidate with knowledge and awareness in ionizing radiation hazards that might occur in radiology and the related international recommendations on radiation protection. Also, understanding the role Nuclear Medicine in Radiodiagnosis.

2- Intended Learning Outcomes (ILOs):

2.a. Knowledge and understanding:

By the end of the course, students should be able to:

- 2.a.1. Recognize and define the basic principles of physical, chemical, and biological effects of radiation.
- 2.a.2. Explain the meaning of radiosensitivity and the factors affecting it.
- 2.a.3. List the response to ionizing radiation in the subcellular, cellular, organ and tissue, and human levels.
- 2.a.4. describe the basic principles of radiation safety.
- 2.a.5. List the international recommendations of radiation protection.
- 2.a.6. explain the fundamentals of nuclear medicine
- 2.a.7. discuss the indications of different nuclear studies

2.b. Intellectual Skills:

By the end of the course, students should be able to:

- 2.b.1. Correlate between radiation and its effects different body organs.
- 2.b.2. Develop skills of estimate the probability of radiation hazards at different radiation levels.
- 2.b.3. Modify injected radioactive material according to age and indication of study.
- 2.b.4. Make a presentation about nuclear medicine subject.
- 2.b.5. Integrate quantitative data with subjected data.



2.b.6 Select proper radioactive material according to patient indication

2.c. Practical and Clinical Skills:

By the end of the course, students should be able to:

- 2.c.1. interpret learning into daily routine in radiology department.
- 2.c.2. Select a proper way to prevent the radiation deterministic effects on patients.
- 2.c.3. Select a proper way to reduce the stochastic radiation effects on patients.
- 2.c.4. Handle the different medical imaging processes in the safest way.
- 2.c.5. Perform different technical procedures concerning nuclear scintigraphy.
- 2.c.6. Deal with hot lab equipments.
- 2.c.7. Manipulate different nuclear medicine studies according to individual indications .

2.d. General and transferable Skills:

By the end of the course, students should be able to:

- 2.d.1. Use database to collect material needed for research.
- 2.d.2. Gather and organize material from various sources (including library, electronic and online resources).
- 2.d.3. Present a research assignment orally and deliver it in both written and electronic forms.
- 2.d.4. Understand the importance of continuing professional development.
- 2.d.5. Demonstrate respect to all patients irrespective of their socioeconomic levels, Culture or religious beliefs and use language appropriate to the patient's culture .
- 2.d.6. Provide appropriate basic drug education to the patient and his family.
- 2.d.7. Communicate effectively with other health care professionals to maximize patient benefits and minimize the risk of errors.



3- Course contents:

Subject	Lectures (hrs)	% of Total
- Effects of radiation on human body	10	35
- Bone scan	4	13
- Diffusion and perfusion scan.	4	13
- HIDA scans.	4	13
- Liver imaging.	4	13
- GIT imaging.	4	13
Total	30	100

4- Teaching and learning methods:

METHODS USED:

- Modified lectures.

5- Students Assessment methods:

5-A) ATTENDANCE CRITERIA: Faculty bylaws

5-B) Assessment Tools:

Tool	Purpose (ILOs)
Written examination	To assess knowledge
MCQ	To assess knowledge & intellectual skills

5-C) TIME SCHEDULE: Faculty bylaws

Exam	Week
8- First part: - written - oral - practical & clinical	At the end of course
9- Second part: - written - oral - practical & clinical	
10- Thesis	
4- Assignments & other activities	



5-D) Weighting System:

Examination	Marks allocated	% of Total Marks
Written (long assay)	25	72
Oral	10	28
Total	35	100%

- The minimum passing & Passing grades (60%).

FORMATIVE ASSESSMENT:

Student knows his marks after the Formative exams.

5-E) Examinassions description:

Examination	Description
a- Written b- MCQ	e.g. shorts assay, long essay.

6- List of references:

6.1- Basic materials:

Lecture notes

6.2- Essential books (text books):

-Diagnostic nuclear medicine by Christiaan Schiepecs.

7- Facilities required for teaching and learning:

Facilities used for teaching this course include:

- Lecture halls:
- Information technology / AV aids.

Course coordinator: Dr.Hesham Farouk

Head of Department: Prof. Medhat Refaat

Date: 9/9/2013



Course Specification of Medical Statistics For Radiology Diploma

1. Program on which the course is given: Diploma Degree in Radiology.
2. Major or minor element of the program: Minor.
3. Department offering the program: Radiology Department.
4. Department offering the course: Community Medicine department.
5. Academic Year/Level: First Part.
6. Date of specification approval: department council No. 208, date 29-8-2013.

A) Basic Information

- Course title: Medical Statistics
- Code: RAD 505
- Credit hours: 1 credit hour for one semester

B) Professional Information

1- Overall Aim of the Course:

To equip candidates with Principles of Biostatistics, types of data, methods of presentation of data, types of Epidemiological studies, Sampling, statistical methods & research methods.

To provide the candidates with the knowledge and skills necessary to practice statistical analytical methods and research methods.

To enable the candidates to evaluate the health problems.

2- Intended Learning Outcomes (ILOs):

○○○A-Knowledge and understanding:

By the end of the course, students should be able to:

- A.1 Identify and devise Radiology program based on local needs.
- A.2 Describe the basics of Principles of Biostatistics, types of data, methods of presentation of data, types of Epidemiological studies, Sampling, statistical methods and research methods.

B- Intellectual Skills:

By the end of the course, students should be able to:



- B.1 Choose suitable methods for conducting research.
- B.2 Choose suitable methods for analysis of data.
- B.3 Select appropriate method for evaluate the health problem.

C. Professional Skills:

By the end of the program the graduate will be able to:

- C.1 Communicate clearly, sensitively and effectively with patients and their relatives, and colleagues from a variety of health and social care professions.
- C.2 Conduct proper counseling practices to provide appropriate basic research methods.
- C.3 Respect the role of others, superiors, colleagues and all members of the health profession .
- C.4 Conduct different types of surveys.
- C.5 Apply the principles of statistical methods for collection, presentation & analysis of all types of data.

D. General and Transferable Skills:

By the end of the course, students should be able to:

- D.1 Establish life-long self-learning required for continuous professional development.
- D.2 Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice.
- D.3 Retrieve, manage, and manipulate information by all means, including electronic means.
- D.4 Present information clearly in written, electronic and oral forms.
- D.5 Conduct counseling sessions for prevention & control of different conditions for healthy individuals, for patients as well as their families.
- D.6 Establish effective interpersonal relationship to Communicate ideas and arguments.

3- Course contents:

Topics	Hours of Lectures	Practical/Tutorial	ILOs
Types of data	1	1	A2



Collection of data: <ul style="list-style-type: none"> Sampling Screening Epidemiological studies 	3	3	A2,B1,C1,C2,C4,C5
Summarization of data: <ul style="list-style-type: none"> Measures of central tendency Measures of dispersion 	2	2	A2,B2,C2
Presentation of data: Tabular presentation, Graphic presentation <ul style="list-style-type: none"> Mathematical presentation 	2	2	D3,D4
Normal distribution curve	1	1	D3,D4
Hypothesis testing	1	1	D1,D5
Analysis of data & tests of significance	2	2	B2,D3
Vital rates	2	2	A1,B3,D2
Ethics of research	1	1	C2,C3,D6
Total	15	15	

4- Teaching and learning methods:

- Lectures.
- Practical classes
- Small group discussion with case study and problem solving.

5- Students Assessment methods:

- Assessment tools

Tool	Purpose (ILOs)
Written examination	To assess knowledge acquisition, including problem solving
Oral examination	To assess understanding and stability of knowledge given, attitude and presentation.

- Assessment schedule

Exam	Time
Written exam	After 6 months of registration of the degree.
Oral exam	After the written exam.

- Weighting System



Examination	Marks allocated	% of Total Marks
Written	100	50%
Oral	100	50%
Total	200	100%

▪ Examination description

Examination	Description
<ul style="list-style-type: none">▪ Written▪ Oral	<ul style="list-style-type: none">▪ A two-hour written paper composed of short essay-type questions and Case study.▪ One oral examination station with 2 staff members (10-15 minutes: 4-5 questions).

6- List of references:

6.1- Basic materials like Department notebook: **Handouts** of the staff member in the department

6.2- Essential books (text books) like **Khalil IF, 1999**: Biostatistics, Cairo University

6.3- Recommended books like **Maxcy RL, 2008**: Public health and preventive medicine.

6.4- Periodicals, Web sites, etc:

- WHO.int.com
- Pub. Med
- Google
- Science direct

7- Facilities required for teaching and learning:

7.1 **Adequate infrastructure:** including teaching places (teaching class & teaching hall) provided with comfortable desks, fans, air condition, adequate sources of lighting both natural and artificial and security tools.

7.2 **Teaching tools:** including screens, black board, white board, data show, computers, laser printer, scanner & copier.

7.3 **Computer program:** for statistical analysis of data.

- **Course coordinator:** Prof Dr. Hala Mostafa El Hady
- **Head of Department:** Prof Dr. Mahmoud Fawzy El Gendy
- **Date:** 29-8-2013



الملحقات

ملحق ١ : Academic standard of the program

ملحق ٢ : المعايير القياسية العامة للدراسات العليا الصادرة عن الهيئة

ملحق ٣ : مصفوفة مضاهاة المعايير الأكاديمية المتبناة للبرنامج مع المعايير القياسية للدراسات

العليا الصادرة عن الهيئة لدرجة الدبلومة

ملحق ٤ : مصفوفة مضاهاة المعايير الأكاديمية للبرنامج وأهداف ونواتج تعلم البرنامج

ملحق ٥ : مصفوفة مضاهاة مقررات البرنامج مع المعارف والمهارات للبرنامج الدراسي

ملحق ١: Academic standard of the program

جامعة بنها
كلية الطب
قسم الأشعة التشخيصية والتداخلية

وثيقة المعايير الأكاديمية المرجعية لبرنامج الدبلومة

Academic Reference Standards (ARS) for Diploma Degree in diagnostic & intervention radiology.

1. Graduate Attributes.

- 1.1. Specialized knowledge gained in the application of professional practice.
- 1.2. problem identification & finding solutions for it.
- 1.3. Mastery of professional skills & Using appropriate technology for practice.
- 1.4. Communicate effectively with other teams
- 1.5. Decision-making in different professional contexts.
- 1.6. Employment of available resources in order to achieve the highest benefit in the diagnosis by different radiology tools.
- 1.7. Taking active role in the community and saving environment.
- 1.8. Ethical medical behavior.
- 1.9. Continuous scientific work and self development in radiology.

2. Academic Standards.

2.1. Knowledge and understanding.

By the end of Diploma program, the graduate should recognize and understand the followings:

- 2.1.1. Recognize the basic radiological knowledge including principles of physics, radiobiology, radiological anatomy, positions and imaging techniques.

- 2.1.2. Understand basics and ethics of scientific research.
- 2.1.3. Know the basic principles of quality control in professional practice in radiology .
- 2.1.4. Understand mutual influence between professional practice and its impacts on the environment

2.2. Intellectual skills:

By the end of Diploma program, graduate should be able to recognize the followings:

- 2.2.1. Identify and analyze problems in the diagnosis of diseases and arranged according to their own priorities.
- 2.2.2. Solve problems related to the diagnosis of diseases .
- 2.2.3. Analysis of different topics related to disease diagnosis by different radiology tolls.
- 2.2.4. Evaluate the possible complications associated with different radiological procedures
- 2.2.5. Perform efficient decisions in different proplems.

2.3 Practical/Professional skills

By the end of Diploma program, graduate should accept the followings skills:

- 2.3.1. Perform different radiological procedures and dealing with different associated complications efficiently.
- 2.3.2 write different reports for radiological examinations which are taken during the general throughput of the normal working day of the department of radiodiagnosis

2.4. Communication and transferable skills:

By the end of diploma program, graduate should accept the following skills:

2.4.1 Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice

2.4.2 Use of information technology to serve the professional practice in the field of radiodiagnosis

2.4.3 Establish life-long self-learning required for continuous professional development

2.4.4 use of different sources to obtain information and knowledge

2.4.5 Work effectively as a member or leader of a health care team or other professional group.

2.4.6 Leadership team in professional familiar contexts

2.4.7 Evaluate self performance and continue to learn.

اعتماد مجلس القسم رقم بتاريخ ٢٠١٣/٦/٧

رئيس مجلس القسم

اعتماد مجلس الكلية ٣٥٤ رقم بتاريخ ٢٠١٣/٦/١٦

ملحق ٢ : المعايير القياسية للدراسات العليا ٢٠٠٩
الصادرة عن الهيئة القومية لضمان جودة التعليم والاعتماد

برامج دبلومه الدراسات العليا

١- موصفات الخريج

خريج برامج دبلومه الدراسات العليا فى أى تخصص يجب أن يكون قادرا على :

- ١-١ تطبيق المعارف المتخصصة التى اكتسبها فى ممارسته المهنية .
- ٢-١ تحديد المشكلات المهنية واقتراح حلول لها.
- ٣-١ إتقان المهارات المهنية واستخدام الوسائل التكنولوجية المناسبة فى ممارسته المهنية .
- ٤-١ التواصل وقيادة فرق العمل من خلال العمل المهنى المنظومى
- ٥-١ اتخاذ القرار فى ضوء المعلوما المتاحة
- ٦-١ توظيف الموارد المتاحة بكفاءة
- ٧-١ الوعى بدوره فى تنمية المجتمع والحفاظ على البيئة
- ٨-١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة وتقبل المسائلة والمحاسبة
- ٩-١ إدراك ضرورة تنمية ذاته والانخراط فى التعليم المستمر

٢- المعايير القياسية العامة

١-٢ المعرفة والفهم:

بانتهاى دراسة برامج دبلومه الدراسات العليا يجب أن يكون الخريج قادرا على فهم واستيعاب كل
من :

١-١-٢ النظريات والاساسيات والمعارف المتخصصة فى مجال التعلم وكذا العلوم ذات العلاقة
بممارسته المهنية

٢-١-٢ المبادئ الأخلاقية والقانونية للممارسة المهنية فى مجال التخصص

٣-١-٢ مبادئ وأساسيات الجودة فى الممارسة المهنية فى مجال التخصص

٤-١-٢ تأثير لممارسة المهنية على البيئة والعمل على الحفاظ على البيئة وصيانتها

٢-٢ المهارات الذهنية :

بانتهاء دراسة برنامج دبلومه الدراسات العليا يجب أن يكون الخريج قادرا على :

١-٢-٢ تحديد وتحليل المشاكل فى مجال التخصص وترتيبها وفقا لأولوياتها

٢-٢-٢ حل المشاكل المتخصصة فى مجال مهنته

٣-٢-٢ القراءة التحليلية للأبحاث والمواضيع ذات العلاقة بالتخصص

٤-٢-٢ تقييم المخاطر فى الممارسات المهنية

٥-٢-٢ اتخاذ القرارات المهنية فى ضوء المعلومات المتاحة

٣-٢ المهارات المهنية :

بانتهاء دراسة برنامج دبلومه الدراسات العليا يجب أن يكون الخريج قادرا على :

١-٣-٢ تطبيق المهارات المهنية فى مجال التخصص

٢-٣-٢ كتابة التقارير المهنية

٤-٢ المهارات العامة والمنتقلة:

بانتهاء دراسة برنامج دبلومه الدراسات العليا يجب أن يكون الخريج قادرا على :

١-٤-٢ التواصل الفعال بأنواعه المختلفة

٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم تطوير الممارسة المهنية

٣-٤-٢ التقييم الذاتى وتحديد احتياجاته التعليمية الشخصية

٤-٤-٢ استخدام المصادر المختلفة للحصول على المعلومات والمعارف

٥-٤-٢ العمل فى فريق وإدارة الوقت

٦-٤-٢ قيادة فريق فى سياقات مهنية مألوفة

٧-٤-٢ التعلم الذاتى والمستمر

ملحق 3: مصفوفة المعايير الأكاديمية للبرنامج مع المعايير القياسية للدراسات العليا
الصادرة عن الهيئة

- مواصفات الخريج:

مواصفات الخريج بالمعايير الأكاديمية للبرنامج	مواصفات الخريج بالمعايير القياسية للدراسات العليا (درجة الدبلومة)
1.1 Specialized knowledge gained in the application of professional practice.	١.١ . تطبيق المعارف المتخصصة التي اكتسبها في ممارسته المهنية
1.2 problem identification & finding solutions for it.	١.٢ . تحديد المشكلات المهنية واقتراح حلول لها
1.3 Mastery of professional skills & Using appropriate technology for practice	١.٣ . إتقان المهارات المهنية واستخدام أجهزة الأشعة المختلفة بما يساعده في تشخيص الأمراض والمساهمة في العلاج عن طريق التشخيص الصحيح
1.4 Communicate effectively with other teams	١.٤ . التواصل وقيادة فرق العمل من خلال العمل المهني المنظومي مع باقي الأقسام بالمستشفى لتشخيص الأمراض المختلفة
1.5 Decision-making in different professional contexts.	١.٥ . اتخاذ القرار في ضوء المعلوما المتاحة
1.6 Employment of available resources in order to achieve the highest benefit in the diagnosis by different radiology tools.	١.٦ . توظيف الموارد المتاحة بكفاءة حتى يصل بالمريض الى التشخيص السليم

1.7 Taking active role in the community and saving environment	١.٧ . الوعي بدوره في تنمية المجتمع والحفاظ على البيئة
1.8 Ethical medical behavior.	١.٨ . التصرف بما يعكس الالتزام بالنزاهة والمصداقية وقواعد المهنة وتقبل المسائلة والمحاسبة
1.9 Continuous scientific work and self development in radiology	١.٩ . إدراك ضرورة تنمية ذاته والانخراط في التعليم المستمر حتى ينمي مهاراته ومستواه العلمي

أ - المعرفة والفهم:

المعايير الأكاديمية للبرنامج	المعايير القياسية العامة (Generic) للدراسات العليا (درجة الدبلومة)
<p><i>By the end of diploma program, the candidate should recognize and understand the followings:</i></p> <p>2.1.1. Recognize the basic radiological knowledge including principles of physics, radiobiology, radiological anatomy, positions and imaging techniques.</p>	<p>بأنتهاء دراسة برنامج الدبلومة يجب ان يكون الخريج على فهم ودراية بكل من:</p> <p>١.١.٢ النظريات والاساسيات والمعارف المتخصصة في مجال التشخيص بالاشعة وكذا العلوم ذات العلاقة بممارسته المهنية</p>
2.1.2 Understand basics and ethics scientific research.	٢.١.٢ المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التشخيص بالاشعة
2.1.3 Know the basic principles of quality control professional practice in radiology .	٣.١.٢ مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التشخيص بالاشعة

<p>2.1.4 Understand mutual influence between professional practice and its impacts on environment</p>	<p>٤.١.٢ تأثير ممارسة المهنة على البيئة والأشخاص والعمل على الحفاظ على البيئة وصيانتها</p>

ب - القدرات الذهنية :

المعايير الأكاديمية للبرنامج	المعايير القياسية العامة (Generic) للدراسات العليا (درجة الدبلومة)
<p><i>By the end of diploma program, candidate should be able to recognize the followings:</i></p> <p>2.2.1. Identify and analyze problems in the diagnosis of diseases and arranged according to their own priorities</p>	<p>بانتهاج دراسة برنامج الدبلومة يجب ان يكون الخريج قادرا على : ١-٢-٢ تحديد وتحليل المشاكل في تشخيص الامراض وترتيبها وفقا لأولوياتها</p>
<p>2.2.2 Solve problems related to the diagnosis of diseases .</p>	<p>٢-٢-٢ حل المشاكل المتخصصة في مجال التشخيص بالأشعة</p>
<p>2.2.3 Analysis of different topics related to disease diagnosis by different radiology tools</p>	<p>٣-٢-٢ القراءة التحليلية للأبحاث والمواضيع ذات العلاقة بتشخيص الامراض بالأشعة</p>
<p>2.2.4 Evaluate the possible complications associated with different radiological procedures</p>	<p>٤-٢-٢ تقييم المخاطر في الممارسات المهنية ومدى تأثير بعض اجهزة الاشعة على الاشخاص</p>

2.2.5 Perform efficient decisions in different problems.	٢-٢-٥ اتخاذ القرارات المهنية في ضوء المعلومات المتاحة بما يساعد في تشخيص الامراض والمساهمة في علاجها
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ج. مهارات مهنية وعملية :

المعايير الأكاديمية للبرنامج	المعايير القياسية العامة (Generic) للدراسات العليا (درجة الدبلومة)
<p><i>By the end of diploma program, candidate should accept the following skills:</i></p> <p>2.3.1. Perform different radiological procedures dealing with different associated complications efficiently.</p>	<p>بانتهاج دراسة برنامج يجب ان الماجستير يكون الخريج قادرا على : ٢-٣-١ تطبيق المهارات المهنية في مجال التشخيص بالاشعة</p>
2.3.2 write different reports for radiological examinations which are taken during the general throughput of the normal working day of the department of radiodiagnosis	٢-٣-٢ كتابة تقارير الاشعة ووصف المرض الوصف الصحيح والوصول الى التشخيص قدر الامكان

د . مهارات عامة و منتقلة :

المعايير الأكاديمية للبرنامج	المعايير القياسية العامة (Generic) للدراسات العليا (درجة الدبلومة)
<p><i>By the end of diploma program, candidate should accept the following skills:</i></p> <p>2.4.1 Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice</p>	<p>بانتهاج دراسة برنامج الدبلومة يجب ان يكون الخريج قادرا على : ٢-٤-١ التواصل الفعال بأنواعه المختلفة مع المرضى وكذلك باقي القسام الاخرى</p>

<p>2.4.2 Use of information technology to serve professional practice in the field of radiodiagnosis</p>	<p>٢-٤-٢ استخدام تكنولوجيا المعلومات بما يخدم التطور في تشخيص الامراض بالاشعة.</p>
<p>2.4.3 Establish life-long self-learning requirements for continuous professional development</p>	<p>٣-٤-٢ التقييم الذاتي وتحديد احتياجاته التعليمية الشخصية باستمرار</p>
<p>2.4.4 use of different sources to obtain information and knowledge</p>	<p>٤-٤-٢ استخدام المصادر المختلفة للحصول على المعلومات والمعارف</p>
<p>2.4.5 Work effectively as a member or leader of a health care team or other professional group</p>	<p>٥-٤-٢ العمل في فريق وادارة الوقت</p>
<p>2.4.6 Leadership team in professional family contexts</p>	<p>٦-٤-٢ قيادة فريق في سياقات مهنية مألوفة</p>
<p>2.4.7 Evaluate self performance and continue to learn.</p>	<p>٧-٤-٢ التعلم الذاتي والمستمر</p>

ملحق 4: مصفوفة مضاهاة المعايير الأكاديمية للبرنامج و أهداف و نواتج تعلم البرنامج

أهداف البرنامج	المعايير الأكاديمية للبرنامج (مواصفات الخريج):
1.a.	1.1 Specialized knowledge gained in the application of professional practice.
1.b.	1.2 problem identification & finding solutions for it.
1.c.	1.3 Mastery of professional skills & Using appropriate technology for practice
1.d.	1.4 Communicate effectively with other teams
1.E.	1.5 Decision-making in different professional contexts.
1.F.	1.6 Employment of available resources in order to achieve the highest
1.g.	1.7 Taking active role in the community and saving environment.
1.h.	1.8 Ethical medical behavior.
1.i.	1.9 Continuous scientific work and self development in radiology.

نواتج تعلم البرنامج										المعايير الأكاديمية للبرنامج	
المعرفة و الفهم											
	2.a.10	2.a.9	2.a.8	2.a.7	2.a.6	2.a.5	2.a.4	2.a.3	2.a.2.		2.a.1.
						√	√	√	√	√	By the end of diploma program, the candidate should recognize and understand the followings: 2.1.1. Recognize the basic radiological knowledge including principles of physics, radiobiology, radiological anatomy, positions and imaging techniques.
					√						2.1.2 Understand basics and ethical scientific research.
							√				2.1.3 Know the basic principle quality control in professional practice in radiology .
						√					2.1.4 Understand mutual influence between professional practice and its impacts on the environment

نواتج تعلم البرنامج									المعايير الأكاديمية للبرنامج المهارات الذهنية	
Intellectual skills										
		2.b.8	2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2.		2.b.1.
									√	<p><i>By the end of diploma program, candidate should be able to recognize the followings:</i></p> <p>2.2.1. Identify and analyze problems in the diagnosis of diseases and arranged according to their own priorities</p>
		√							√	2.2.2 Solve problems related to diagnosis of diseases .
					√					2.2.3 Analysis of different topics related to disease diagnosis by different radiology tolls
						√				2.2.4 Evaluate the possible complications associated with different radiological procedures
				√						2.2.6 Perform efficient decisions different proplems.

نواتج تعلم البرنامج										المعايير الأكاديمية للبرنامج المهارات المهنية	
Practical/Professional skills											
				2.c.7	2.c.6	2.c.5	2.c.4	2.c.3	2.c.2.		2.c.1.
						√				√	By the end of diploma program, candidate should accept the followings skills: 2.3.1. Perform different radiological procedures and dealing with different associated complications efficiently
					√		√	√	√		2.3.2 write different reports for radiological examinations which are taken during the general throughout the normal working day of the department of radiodiagnosis

نواتج تعلم البرنامج										المعايير الأكاديمية للبرنامج	
General and transferable skill										المهارات العامة والمنتقلة	
			2.d.8	2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2.	2.d.1.	
					√	√					By the end of diploma program, candidate should accept the following skills: 2.4.1 Use the sources of biomedical information and communication technology to remain current with advances in knowledge and practice
									√		2.4.2 Use of information technology to serve the professional practice in the field of radiodiagnosis
				√							2.4.3 Establish life-long self-learning required for continuous professional development
										√	2.4.4 use of different sources to obtain information and knowledge
				√							2.4.5 Work effectively as a member or leader of a health care team or other professional group
							√				2.4.6 Leadership team in professional and familiar contexts

						■	■		RAD 606	General surgery in radiological basis
					■		■		RAD 607	Pathology

مهارات عامة General and transferable								ILOs	
2.d.8	2.d.7.	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2	2.d.1	Courses & codes	
							■	RAD 605	radiodiagnosis
				■			■	RAD 606	General medicine in radiological basis
						■	■	RAD 606	General medicine in radiological basis
							■	RAD 607	Pathology