

مقارنة ما يقدمه البرنامج من نتائج تعليمية مستهدفة مع المعايير المرجعية لبرنامج
الماجستير في الأشعة التشخيصية

أ - المعرفة والفهم:

المقررات التي تحقق المعايير الأكاديمية للبرنامج	مخرجات التعلم المستهدفة ILOs	(ARS) Benchmark المعايير الأكاديمية لجامعة	(NARS) المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا
<ul style="list-style-type: none"> - Technology of imaging - Radiological anatomy - Isotopes - Physics - Pathology related to radiology 	<p>A1 A2 A6 A9</p>	<p>Define the basic physics of the different imaging modalities.</p> <p>Describe the radiological anatomy of the different parts of the body in the different imaging modalities.</p> <p>Demonstrate and express the radiologic appearance of different pathological diseases that affect the different body regions</p> <p>Explain the main developmental changes in humans and recognize the various pediatric congenital anomalies and developmental abnormalities in the body and major organ systems, presenting throughout the age spectrum.</p> <p>Describe the different interventional radiological modalities: angiography, cholangiography, interventional procedures e.g. embolization.</p>	<p>1) Theories, concepts and specialized knowledge of the learning area and also sciences appropriate to the professional practice.</p>
<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric 	<p>A5 A7 A8 A10 A11</p>	<p>Identify Clinical correlation between the radiologic appearance and the etiology, pathogenesis and clinical features of common and life threatening illnesses.</p> <p>Identify and recognize Radiologic approach to emergency medicine and life threatening illnesses; non invasive and invasive intervention and pre and postoperative follow up.</p> <p>Identify the role of radiology in public health services and screening programs e.g. mammography for breast cancer</p>	<p>2) Mutual influence between Professional practice and its impacts on the environment.</p>

		<p>screening</p> <p>Define and be Aware of radiation safety and protection measures.</p> <p>Describe best methods and protocols for enhancing patient safety & standardization of CT contrast media practice.</p>	
	A4 A14	<p>- Recognize the Differential diagnosis between the various pathological conditions on the different imaging modalities.</p> <p>-Understand the applications of isotope in different organs and their role in the differential diagnosis and early detection of metastasis.</p>	3) Scientific developments in the field of specialization
<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric - Interventional radiology 	A12 A15	<p>Be aware of and recognize the national code of ethics, medico-legal aspects, malpractice and common medical mistakes.</p> <p>Discuss the risks and hazards of isotope material.</p>	4)Moral and legal ethics of the Professional practice in the area of specialization.
<ul style="list-style-type: none"> - Technology of imaging 	A10 A11 A13	<p>Define and be Aware of radiation safety and protection measures.</p> <p>Describe best methods and protocols for enhancing patient safety & standardization of CT contrast media practice.</p> <p>. Study the basic physical principles of the different isotope modalities and the biochemical criteria of the isotope materials used.</p>	5) The concepts and principles of quality of the professional practice in the area of specialization.
<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric - Interventional radiology 	A12	<p>Be aware of and recognize the national code of ethics, medico-legal aspects, malpractice and common medical mistakes.</p>	6)The basics and ethics of scientific research..

ب - القدرات الذهنية :

المقررات التي تحقق المعايير الأكاديمية للبرامج	مخرجات التعلم المستهدفة ILOs	(ARS) Benchmark المعايير الأكاديمية لجامعة	(NARS) المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا
<ul style="list-style-type: none"> - Technology of imaging - Isotopes - Physics - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric 	B1 B5	<p>Integrate basic physical, technical and radiological principles with clinical history and data offered by the referring clinician to gather a full picture of the case available.</p> <p>Assemble advanced imaging modalities, scientific methods, regular conference attendance and computer & internet for research purposes.</p>	1)Analyze and evaluate of information in the field of specialization and make full use of such information to solve problems.
<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric 	B2-B3- B4	<p>Reason deductively in solving clinical problems.</p> <p>Use personal judgment for critical and analytical problem solving and seek out information.</p> <p>Recognize and cope with uncertainty that is unavoidable in medical practice by accepting and reacting with uncertain situation through proper counseling, consultation and referral.</p>	2) Solve specific problems on the basis of limited and contradictory information.
<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast <p>Pediatric</p>	B2-B3	<p>- Reason deductively in solving clinical problems:</p> <p>Pick up the abnormality in the film</p> <p>Interpret the available data into a full radiologic report</p> <p>Analyze and evaluate the results to exclude or suggest the necessity of further evaluation.</p> <p>Decide the final diagnosis or differential diagnosis of the case.</p> <p>Discriminate between technical errors, normal anatomical</p>	3)Demonstrate a high level of competence in the coordination of different sources of knowledge to solve professional problems..

		<p>variants and pathology.</p> <p>Suggest the imaging modality of choice best for evaluating the specific organ of interest.</p> <ul style="list-style-type: none"> - Use personal judgment for critical and analytical problem solving and seek out information. 	
<ul style="list-style-type: none"> - Technology of imaging - Physics - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric 	B5	<p>Assemble advanced imaging modalities, scientific methods, regular conference attendance and computer & internet for research purposes.</p>	<p>4)Carry out a research study and / or writing a scientific methodology study on research problem.</p>
<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric - Interventional radiology 	B4	<p>Use personal judgment for critical and analytical problem solving and seek out information.</p> <p>Recognize and cope with uncertainty that is unavoidable in medical practice by accepting and reacting with uncertain situation through proper counseling, consultation and referral.</p>	<p>5)Assess and analyze risks of the Professional practice in the field of specialization.</p>
<ul style="list-style-type: none"> - Technology of imaging - Radiological anatomy - Isotopes - Physics - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric 	B1 B2 B5	<p>Integrate basic physical, technical and radiological principles with clinical history and data offered by the referring clinician to gather a full picture of the case available.</p> <p>Reason deductively in solving clinical problems.</p> <p>Assemble advanced imaging modalities, scientific methods, regular conference attendance and computer & internet for research purposes.</p>	<p>6)Plan to improve performance in the field of specialization</p>
<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric 	B3- B4	<p>Use personal judgment for critical and analytical problem solving and seek out information.</p> <p>Recognize and cope with uncertainty that is unavoidable</p>	<p>7)Make career decisions in different professionalaspects</p>

in medical practice by accepting and reacting with uncertain situation through proper counseling, consultation and referral.

ج - المهارات العملية:

المقررات التي تحقق المعايير الأكاديمية للبرامج	مخرجات التعلم المستهدفة ILOs	(ARS) Benchmark المعايير الأكاديمية لجامعة	(NARS) المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا
<ul style="list-style-type: none"> - Technology of imaging - Isotopes - Physics - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric - Interventional radiology 	<p>C2 C3 C4 C5 C6</p>	<p>Apply the contrast media and the isotopes in the optimal way regarding the dose and the time.</p> <p>Provide the maximum protective measures to avoid the risks of radiation on the patients, workers and visitors.</p> <p>Provide the first aid measures for patients who develop hypersensitivity reaction or any life-threatening clinical attack while performing the examination</p> <p>Develop communication skills with colleagues, various health and social care professionals.</p> <p>Recognize limitations in knowledge and equipment and refer patients to an appropriately equipped facility.</p>	<p>1) professional skills specialization</p>
<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric 	<p>C1 C5</p>	<p>Apply the technical refinements in each imaging modality in order to establish the diagnosis with the highest accuracy and in the shortest time.</p> <p>-Develop communication skills with colleagues, various health and social care professionals.</p>	<p>2- reports</p>
<ul style="list-style-type: none"> - Technology of imaging - Isotopes - Physics 	<p>C1 C2</p>	<p>C1. Use of the technical</p>	<p>3) tools specialization</p>

<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric <p>Interventional radiology</p>		<p>refinements in each imaging modality in order to establish the diagnosis with the highest accuracy and in the shortest time.</p> <p>C2. Use the contrast media and the isotopes in the optimal way regarding the dose and the time.</p>	
--	--	--	--

د- مهارات الاتصال:

المقررات التي تحقق المعايير الأكاديمية للبرامج	مخرجات التعلم المستهدفة ILOs	(ARS) Benchmark المعايير الأكاديمية لجامعة	(NARS) المعايير القومية الأكاديمية القياسية العامة لبرامج قطاع الدراسات العليا
<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric <p>Interventional radiology</p>	D1 D4	<p>Use the different computer programs in the different units of the diagnostic radiology department and communicate efficiently with medical staff of other departments.</p> <p>Attend interactive case study sessions and express ideas and effective arguments about debatable cases.</p>	Communicate effectively in different aspects.
<ul style="list-style-type: none"> - Technology of imaging - Isotopes - Physics - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric <p>Interventional radiology</p>	D1 D2 D3 D4	<p>Use the different computer programs in the different units of the diagnostic radiology department and communicate efficiently with medical staff of other departments.</p> <p>Retrieve, manage and manipulate information by all means, including electronic means to regularly updated with the recent technical innovations.</p> <p>Present information clearly in the form of written radiology reports, electronic and oral forms.</p> <p>Attend interactive case study sessions and express ideas and effective arguments about debatable cases.</p>	Demonstrate efficient IT capabilities in such a way that serves in the development of the professional practice.

<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric <p>Interventional radiology</p>	<p>D6</p>	<p>Analyze and use numerical data (including the use of simple statistical methods) to assess the results of a number of case studies and assess the efficiency of a certain imaging modality in the radiologic characterization of a certain organ disease.</p>	<p>3) Adopt self-assessment and specify his needs of personal learning..</p>
<ul style="list-style-type: none"> - Radiological anatomy - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric <p>Interventional radiology</p>	<p>D1 D2</p>	<p>Use the different computer programs in the different units of the diagnostic radiology department and communicate efficiently with medical staff of other departments.</p> <p>Retrieve, manage and manipulate information by all means, including electronic means to regularly updated with the recent technical innovations.</p>	<p>4)Use different resources for information and knowledge..</p>
<ul style="list-style-type: none"> - Neuroradiology - Head ead & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric <p>Interventional radiology</p>	<p>D4</p>	<p>Attend interactive case study sessions and express ideas and effective arguments about debatable cases.</p>	<p>Establish rules and indicators for assessing the performance of others.</p>
<ul style="list-style-type: none"> - Neuroradiology - Head & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric <p>Interventional radiology</p>	<p>D5 D7</p>	<p>Work efficiently within a team work to reach the goal of a research.</p> <p>Knowing the basic principles of the imaging modalities utilized in a certain research, the candidate could provide valuable contributions to the teamwork and collect valuable data.</p>	<p>6) Collaborate effectively within multidisciplinary team and lead teams in different professional contexts.</p>
<ul style="list-style-type: none"> - Neuroradiology - Head & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric <p>Interventional radiology</p>	<p>D2</p>	<p>Retrieve, manage and mar information by all means, including ele s to regularly updated with the ical innovations.</p>	<p>7) Demonstrate a high level of competence in the time management</p>

<ul style="list-style-type: none"> - Neuroradiology - Head & neck - Chest & heart - Musculo skeletal - Gastrointestinal - Genitourinary - Vascular - Breast - Pediatric <p>Interventional radiology</p>	<p>D2</p>	<p>Retrieve, manage and maintain information by all means, including electronic means to regularly update the recent technical innovations</p>	<p>8) Continuous self-education.</p>
--	------------------	--	---