



Program study plan for Associate Diploma in Radiographic technology

This study plan was approved by the Deans Council of Al-Balqa Applied University, decision number 1706/2016/2017 at 30-8-2017 during session 33. It applies from the beginning of the academic year 2017/2018, as it was approved to amend it according to decision number 10/2/2017/2018 of the Study Plan Committee at 4/10/2017 during session 2.

This study plan to obtain an associate diploma in Allied Medical Professions Programs / Specialization in radiographic technology consisting (96) credit hours, distributed as follows:

Number	Requirement	Credit Hours
1.	General Competencies	12
2.	Functional Competencies	6
3.	Supportive Competencies	6
4.	Speciality Competencies	72
Total		96

Description of program outputs:

The specialization aims to prepare radiographic technicians who are qualified to deal with all cases of radiography and nuclear medicine in safe scientific method for the radiographic technicians, patients and external environment. To be able to prepare a high quality images are required for diagnosis.

Specialization fields for program skills:

Number	Specialization field	Credit hours		Courses within the field
		Theory	Practical	
1.	Allied Medical Sciences	22	2	Anatomy / Physiology / Pathophysiology / First aid / Radiopathology/ Microbiology /Radiopharmacology
2.	Basics of Radiology	6	0	Principles of exposure 1 and 2
3.	Radiographic anatomy and radiographic positioning	6	9	Radiographic positioning 1+2+3/Cross sectional Anatomy/Contrast media procedures.
4.	Magnetic resonance imaging, computed tomography, ultrasound and nuclear medicine.	5	4	Physics of advanced imaging modalities 1+2, Nuclear medicine and radiotherapy.
5.	Quality assurance and Quality control.	7	5	Radiobiology and radiation protection, Patient care in radiology department, quality control and radiographic equipments
5.	Field Training	0	6	
Total Credit Hours		46	26	72 credit hours

AL-BALQA APPLIED UNIVERSITY



جامعة البلقاء التطبيقية

تأسست عام 1997



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Firstly, general competencies with (12) credit hours distributed as follows:

Course number	Course name	Credit hours	Theory	Practical	Prerequisite
020000111	Positive citizenship and life skills	3	3	0	
020000121	Islamic Culture	3	3	0	
020000131	National Education	2	2	0	
020000181	Military Science	1	1	0	
020000101	The English Language	3	3	0	
Total credit hours		12	12	0	

Secondly, functional competencies with (6) credit hours distributed as follows:

Course number	Course name	Credit hours	Theory	Practical	Prerequisite
020000122	Communication Skills in English	2	2	0	
020000231	Entrepreneurship	2	2	0	
020000141	Quality, patient safety, and infection control	2	2	0	
Total credit hours		6	6	0	

Thirdly, supportive competencies with (6) credit hours distributed as follows:

Course number	Course name	Credit hours	Theory	Practical	Prerequisite
020800161	Biochemistry	2	2	0	
020800162	Biochemistry Lab	1	0	1	020800161*
020800271	Medical Sociology	3	3	0	
Total credit hours		6	5	1	



Fourthly, speciality competencies with (72) credit hours distributed as follows:

Course number	Course name	Credit hours	Theory	Practical	Prerequisite
020800131	Anatomy	3	3	-	
020800141	Physiology	3	3	-	020800131*
020800111	First aid	3	2	3	
020802111	Microbiology	3	2	3	
020810101	Medical physics	3	3	-	
020810111	Patient care in radiology department	3	2	3	
020800211	Pathophysiology	3	3	-	020800141**
020810121	Radiopathology	3	3	-	020800141**
020810131	Radiographic positioning 1	3	1	6	
020810231	Radiographic positioning 2	3	1	6	020810131**
020810232	Radiographic positioning 3	2	1	6	020810231**
020810141	Cross sectional anatomy	3	1	6	020810232**
020810151	Radiographic equipment	3	1	6	
020810152	Principle of exposure 1	3	3	-	
020810251	Principle of exposure 2	3	3	-	020810152**
020810261	Radiobiology and radiation protection	3	2	3	020810151**
020810262	Quality assurance and quality control	3	2	3	020810251
020810221	Radiopharmacology	3	3	-	
020810122	Contrast media procedures	3	2	3	02081000221*



020810171	Physics of advanced imaging modalities 1	3	2	3	
020810271	Physics of advanced imaging modalities 2	3	2	3	020810171**
020810281	Nuclear medicine and radiotherapy	3	1	6	020810271**
020801291	Field training*	6	-	-	
Total credit hours		72	46	26	

* **Field training continuous for 16 weeks**

** corequisites

Patient Care in Radiology Department (020810111) (3: 2-3) It covers general care of patients in radiology department, Emphasizes radiographers role in patient care, cardiac arrest, vital signs, accidents victims, besides procedures, septic aseptic techniques, contagious diseases control, blood borne pathogens, vein puncture medications, administration and contrast media reactions, including fundamentals of urinary catheterization .

Radiographic Pathology (020810121) (3: 3-0) This course concentrates on the appearance of pathological effects of anatomical radiology. It Provides students with basic anatomical positions and their normal appearances, also differentiates between structural and abnormal body tissues. It enable students to differentiate between structural and functional aspects of diseases, links anatomical structural and functional aspects of diseases, links anatomical structures with their radiological appearances.

Radiographic Positioning 1 (020810131) (3: 1-6) This course provides the students with the basic essential knowledge and information of the positioning techniques in radiography of the upper extremities, lower extremities and vertebral column, as well as their radiographic anatomy. In addition it deals with special radiographic procedures like myelography.

Radiographic Positioning 2 (020810231) (3: 1-6) This course covers the basic radiographic anatomy of the skull and basic positioning techniques of the skull, paranasal sinuses, mastoids & mandible. It also deals with the radiographic anatomy of the chest and bony thorax in addition to their basic positioning techniques.

Radiographic Positioning 3 (020810232) (3: 1-6) This course covers the basic positioning techniques of the abdomen and pelvis an addition to their basic radiographic anatomy. It also provides the students with the basic radiographic anatomy and positions of the female breast (Mammography), in addition to dental radiography and new imaging modalities (CT, MRI, etc).

Principles of Exposure 1 (020810152) (3: 3-0) The course Provides the Students with the essential knowledge about the structure and components of the imaging system like x-ray tube, x-ray film, and others and how to deal with them. It also provides the students with the basic information about the



chemical structure of processing solutions and x-ray film processing, enabling the student to know the process of image formation.

Principles Of Exposure 2 (020810251) (3: 3-0) The aim of this course is to provide the students with the Knowledge and understanding means of the other parts of the imaging system including image intensifier, radiographic techniques like fluoroscopy, tomography, stereo -radiography, xeroradiography and magnification.

Radiographic Equipment (020810151) (3: 1-6) The aim of this course is to provide the student with the basic essential knowledge about the available equipment in the radiology department including the design and function of these equipment; in addition to their performance and maintenance where possible; and finally to be familiar with the impact of technology on the progress of diagnostic imaging.

Radiobiology and radiation protection (020810261) (3: 2-3) The course introduces the students into diagnostic radiology and nuclear medicine. It provides students with basic knowledge required to minimize excessive radiation exposure of patients, public and operators. Moreover, it deals with different types of radiosensitivity of various body organs, enabling students to know various radiation hazards and understanding the radiation units and the main differences between them.

Radio pharmacology (020810221) (3: 3-0) This course provides the students with the basic knowledge about the drugs used in radiology department either for diagnosis, aiding diagnosis. It also provides students with the aim of using of contrast media, chemical and physical properties of C.M. adverse reaction of C.M and its treatment. The course deals with effect of C.M on affect body organs.

Quality assurance and quality control (020810262) (3: 2-3) This course provides the student with the basic knowledge about the concept of quality assurance & control, and their benefits. It also provides the student with the necessary information about the procedures used in quality control tests for different X-Ray systems, as well as retake film analysis and protective devices.

Contrast media procedures (020810122) (3: 2-3) The course is concentrating on radiographic Procedures that need contrast media and special preparation & techniques. It provides the Students with knowledge of various types of contrast media used in radiology department, and the adverse reaction of all types of contrast media with special preparation for each radiographic procedure, indication and contraindications of each procedure and taking care of the patient after the end of the procedure.

Physics of advanced imaging modalities 1 (020810171) (3: 2-3) This course aims to provide the students with the basic physical principles of Ultrasound, nuclear medicine and digital video imaging (DVI) as well as the major configuration of these units and how to obtain a high quality images in addition to understand the safety measures of these systems.

Physics of advanced imaging modalities 2 (020810271) (3: 2-3) This course provides the students with the knowledge about the basic physical Principles of computed tomography and magnetic resonance imaging enabling them to know how to obtain images by these units and to know the safety measures of these systems.



Radiological cross-sectional anatomy (020810141) (3: 1-6) This course provides the students with a complete idea and information about the radiological appearance of anatomical parts of the body as seen in cross sectional and multiplanner imaging via CT and MRI when examining the brain, thorax, abdomen, pelvis and spine.

Nuclear medicine and radiotherapy (020810281) (3: 1-6) This course aims to provide the students with current use of radiopharmaceutical for diagnostic imaging of organ visualization/function, pathology and therapy for all major organ. It provides the student with the types of radioactivity and interaction in biological materials as specifically related to radiation therapy by using x-ray generators and knowing the principle of radiation therapy treatment planning and calculation.

Field training (020810291) (6: 16 weeks training) This course provides the student with practical skills in radiology department which includes taking positioning techniques of the upper extremities, lower extremities and vertebral column. The course deals with the special radiographic position like myelography, and taking positioning techniques of the skull, Para-nasal .sinuses, mastoids and mandible. It provides the student with practical skills including positioning techniques of the chest and bony thorax , taking positioning techniques of the abdomen, pelvis and female breasts (Mammography), in addition to dental radiographic positions and new imaging modalities (CT, MRI, nuclear medicine and radiotherapy imaging procedures).

Guidance plan for specialization of radiographic technology

First semester			Second semester		
Course name	Course number	Credit hours	Course name	Course number	Credit hours
Positive citizenship and life skills	020000111	3	Communication Skills in English	020000122	2
Military science	020000181	1	Islamic Culture	020000121	3
The English Language	020000101	3	Quality, patient safety, and infection control	020000141	2
Anatomy	020800131	3	National Education	020000131	2
physiology	020800141	2	Principle of exposure 1	020810152	3
Biochemistry	020800161	2	Radiographic positioning 1	020800131	3
Lab biochemistry	020800162	1	Radiographic equipment	020810151	3
Patient care in radiology department	020810111	3			
Total credit hours		18	Total credit hours		18



Third semester			Fourth semester		
Course name	Course number	Credit hours	Course name	Course number	Credit hours
Medical Sociology	020800271	3	Physics of advanced imaging modalities1	020810171	3
Principle of exposure 2	020810251	3	Radiographic positioning 3	020810232	3
Radiographic positioning 2	020810231	3	Quality assurance and quality control	020810262	3
Pathophysiology	020800211	3	Microbiology	020801242	3
Radiopathology	020810121	3	First aids	020800111	3
Radiobiology and radiation protection	020810261	3	Medical physics	020810101	3
Total credit hours		18	Total credit hours		18

fifth semester			sixth semester		
Course name	Course number	Credit hours	Course name	Course number	Credit hours
Physics of advanced imaging modalities 2	020810271	3	Field training	020810291	6
Cross sectional anatomy	020800161	3	General skills	-	3
radiopharmacology	020810221	3			
Nuclear medicine and radiotherapy	020800211	3			
Contrast media procedures	020810122	3			
Total credit hours		18	Total credit hours		9

Done by

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