Ministry of Higher Education and Scientific Research
Al-Zahraa University for Women
Health and Medical Technical College
Department of Radiology Techniques

Academic Program Specification of Radiological Techniques Department

2026-2025

Program Specification Form for Radiological Techniques Department

University Name: Al-Zahraa, Peace be upon her, For Women.

Faculty/Institute: Health and Medical Techniques.

Scientific Department: Radiological Techniques.

Academic or Professional Program Name: Bachelor in Radiological Techniques.

Final Certificate Name: Bachelor in Radiological Techniques.

Academic System: Semesterly for the First , Second, Third and Fourth Years.

Description Preparation Date: 1/9/2025

File Completion Date: 1/11/2025

Signature:
Head of Department Name:
Asst. Prof. Dr. Sadeq Haleem Al-Murshedi
Date: ١/١١/2025

Signature: nadia
Scientific Associate Name:
Asst. Dr. Nadia Nayyef Hussein
Date: ١/١١/2025

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Asst.lect. Raghad Ahmed Hussein
Date: ٧/١١/2025
Signature:

Approval of the Dean
Asst. Dr. Ali Jasim Al-khafajy
١ /١١ /2025

1. Program Vision

The department aspires to be a pioneer in the field of radiology technical education locally, regionally and globally in the academic and professional fields, and for its outputs to be distinguished "theoretically and practically" by providing the best knowledge programs in the field of radiology, and also aspires to raise the level of health services required to cover the needs of the labor market and push forward in the march of scientific research in our dear country.

2. Program Mission

The department is based on educating, training and graduating a cadre of distinguished scientific and professional radiographers in the field of medical radiography, to deal with complex and advanced technologies in the field of radiography devices and to employ the experience they have gained in the field of medical radiography to serve the community and the country.

3. Program Objectives

1. Preparing and graduating specialized cadres of medical photographers holding a "Bachelor of Radiology Technician" degree, distinguished scientifically and professionally in the specialty of medical radiology at a very high level in the field of medical radiology, in accordance with international standards for work in various governmental and private health institutions.

2. Graduating radiologic technicians who are ethically and professionally committed to practicing the profession and providing the required medical care to patients.

3. To provide graduates with the necessary experience to put the safety of the patient and the radiographer first during the radiological imaging process.

4. Preparing and graduating scientifically capable employees in the scientific research field to supplement technical education, especially the radiology department, with specialized research employees.

5. Exchanging experiences with developed countries by holding specialized seminars and courses with their educational and health institutions.

6. Preparing cadres capable of dealing with patients in a professional and ethical manner during radiology sessions.

4. Program Accreditation

Program of Ministry of Higher Education and Scientific Research.

5. Other external influences
Ministry of Health.

6. Program Structure				
Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	20	60	37%	basic
College Requirements	9	17	16%	basic
Department Requirements	25	170	46%	basic
Summer Training	Two months during the summer holiday for the second and third years			basic
Other	-	-	-	-

*** This can include notes whether the course is basic or optional.**

7. Program Description					
Year/Level		Course Code	Course Name	Credit Hours	
				theoretical	practical
First year	First Semester		Anatomy of the skeleton	2	3
			General physiology	2	3
			General Physics	2	3
			General Chemistry	2	3
			Biology	2	3
			Computer Fundemntals	1	2
			Human Rights and Democracy	2	-
First Year	Second Semester		Anatomy of body system	2	3
			Systemic physiology	2	3

			Physics of Atom	2	3
			Radiobiology	2	4
			Principles of Nursing	2	4
			Medical Terminology	2	-
			Arabic Language	2	-
Second Year	First semester		Computed tomography Equipment techniques	2	5
			Radiographic techniques for lower limbs	2	5
			Special radiological procedures of gastrointestinal tract and bones	2	5
			Radiological anatomy of the lower limbs	2	4
			Fundamentals of radio-physics	2	3
			Fundamentals of radiation protection	2	3
			Crimes of the defunct Baath in Iraq	2	-
			Computer applications	1	2
			Arabic Language	1	-
Second Year	Second Semester		Conventional radiological Equipment techniques	2	5
			Radiographic techniques for upper limbs	2	5
			Special radiological procedures of the biliary and reproductive system	2	5
			Radiological anatomy of the head and upper limbs	2	4
			Physics of computed tomography	2	3
			Arabic language	1	-
Third Year	First semester		Ultrasound Equipment Techniques	2	2

			Radiographic techniques for head and spinal cord	2	4
			Special radiological procedures of the head, breast and respiratory system	2	4
			Radiological anatomy of head and spinal column	2	4
			General Pathology	2	2
			Physics of Ultrasound	2	2
			Biological Radiation hazards	1	2
Third Year	Second semester		Equipment techniques of magnetic resonance imaging	2	4
			Radiographic techniques of thorax and abdomen	2	4
			Special radiological procedures of the cardiovascular and central nervous system	2	4
			Radiological anatomy of thorax and abdomen	2	2
			Systemic Pathology	2	2
			Physics of Magnetic Resonance	1	3
Fourth Year/ First semester			Computed tomography imaging of head and spinal cord	2	5
			Magnetic resonance imaging principles and head exam	2	5
			Abdominal Ultrasound imaging	2	5
			Medicine of internal diseases	2	3
			Biostatistics and computer applications	2	4
			Computed tomography	2	5

Fourth Year/ Second semester		imaging of chest, abdomen and pelvis		
		Magnetic resonance imaging of musculoskeletal system, abdomen and pelvis	2	5
		Obstetrics and gynecologic ultrasound imaging	2	5
		Medicine of surgical diseases	2	3
		Professional Ethics	2	-
		Project Paper	-	6

8. Expected learning outcomes of the program

Knowledge

- Knowing and understanding types of medical radiology equipment and how to operate, use, maintain them.
- Knowing and understanding the main parts and attached parts of radiological equipment's and the function of each part.
- Knowing and understanding the principles of medical radiology, and how to deal with radiation to avoid its harm.
- Knowledge and understanding of the human anatomy and its functions.
- Know and understand how to use contrast materials Its types and effects on the human body.
- Knowing and understanding the types of old acidifying devices and how to operate and work on them.
- Knowing and understanding the technological developments in radiology devices and keeping up with them.

Skills

- Thinking on a correct scientific basis and the ability to self-learn.
- Working to solve technical problems in a scientific and intellectual manner in his field of specialization.
- The ability to take radiographs correctly and with In different modes with high accuracy and quality.
- Avoid damage resulting from radiation and contrast materials.

Ethics

- Promoting integrity, ethics, and mutual respect between students, teaching, and administrative staff in the university environment, and between the technician, his colleagues, subordinates, and patients in the work environment.
- Dedication to hard work, effective collaboration, and communication.
- Achieving balance between academic, professional, and personal life.
- Building self-confidence, personal development, teamwork, and leadership.
- Respect for diversity, peaceful coexistence, and contribution to society.
- Maintaining the confidentiality of the place of study or work and respecting the privacy of employees and patients.

9. Teaching and Learning Strategies

- Theoretical lectures.
- Practical laboratories.
- Systematic training in the radiology department at the university.
- Summer training in government and private hospitals and private clinics.

10. Evaluation methods

- Oral tests.
- Quarterly exams.
- final exams.
- Scientific reports.
- Extra-curricular activities.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)	Number of the teaching staff	
	General	Special		Staff	Lecturer
Doctorate Degrees	5	1	-	5	1
Master Degrees	24	11	-	24	11

12. Professional Development

Mentoring new faculty members

New faculty members are guided through a specific orientation program for new members of the University. This program aims to guide and assist them in recognizing themselves with the work environment, available resources, academic policies, and procedures. Academic instructors are also appointed to assist, guide, and develop new members.

Professional development of faculty members

Establish several training programs, courses, and workshops for new faculty members in the department, which include training programs on teaching skills, scientific research, academic orientation, and leadership development. And also work to involve them in collaborative research and projects; such as preparing pair research with their colleagues at the university, or in academic conferences, to enhance academic skills and experiences, expand knowledge, and develop research skills.

13. Acceptance Criterion

The admission standard is according to the admission standards of the Ministry of Higher Education and Scientific Research:

- The student's overall average in preparatory School.
- The student's desire.
- The department's capacity.

14. The most important sources of information about the program

- Methodological books created by the Ministry of Higher Education and Scientific Research, as the college is subject to a twinning program with the Middle Technical University / Baghdad
- Updating curriculum according to what is adopted by scientific curriculum.
- Scientific research in academic sites to keep pace with scientific developments.

15. Program Development Plan

- Knowing the recent developments and Use display screens to display scientific lectures and related videos.

- Using the Modern technology to display old methods used in the field of radiological Equipment.
- Using electronic simulation programs to explain medical imaging methods and the mechanism of operation of radiological imaging devices.
- Summer training on X-ray machines within the university and increasing medical radiology skills.

Program Skills Outline															
Required program Learning outcomes															
Year\level	Course code	Course name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First Year\ First Semester		Anatomy of the skeleton	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		General physiology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		General Physics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		General Chemistry	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Biology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Computer Principals 1	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Human Rights and Democracy	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Arabic Language	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
First Year\ Second Semester		Anatomy of body system	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Systemic physiology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Physics of Atom	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Radiobiology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Principles of Nursing	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Medical Terminology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Computer Principles 2	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Arabic Language	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Second Year\ First Semester		Computed tomography Equipment techniques	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Radiographic techniques for lower limbs	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

		Special radiological procedures of gastrointestinal tract and bones	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Radiological anatomy of the lower limbs	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Fundamentals of radio-physics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Fundamentals of radiation protection	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Crimes of the defunct Baath in Iraq	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Second Year\ Second Semester		Conventional radiological Equipment techniques	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Radiographic techniques for upper limbs	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Special radiological procedures of the biliary and reproductive system	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Radiological anatomy of the upper limbs	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Physics of computed tomography	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Arabic Language	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Third Year\ First Semester		Equipment techniques of magnetic resonance imaging	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Radiographic techniques for head and spinal cord	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Special radiological procedures of the head, breast and respiratory system	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Radiological anatomy of head and spinal cord	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		General Pathology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Physics of Magnetic Resonance	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Third Year\ Second Semester		Ultrasound Equipment Techniques	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Radiographic techniques of thorax and abdomen	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Special radiological procedures of the cardiovascular and central nervous system	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Radiological anatomy of thorax and abdomen	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Systemic Pathology	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Physics of Ultrasound	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Computed tomography	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Fourth Year/ First Semester		imaging of head and spinal cord													
		Magnetic resonance imaging principles and head exam	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Abdominal Ultrasound imaging	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Medicine of internal diseases	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Biostatistics and computer applications	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fourth Year/ Second Semester		Computed tomography imaging of chest, abdomen and pelvis	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Magnetic resonance imaging of musculoskeletal system, abdomen and pelvis	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Obstetrics and gynecologic ultrasound imaging	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Medicine of surgical diseases	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Professional ethics	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Graduation	Basic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓