



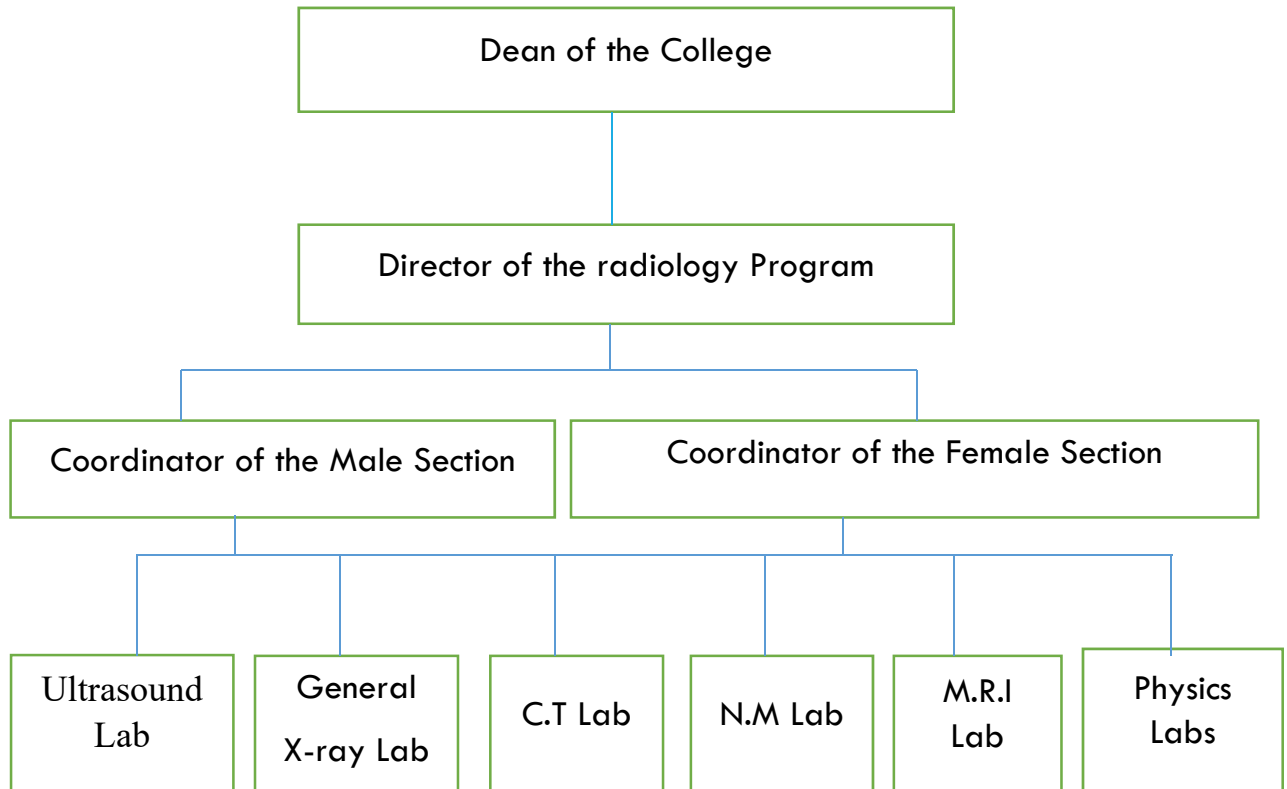
PROGRAM SPECIFICATION (PS)

**Kingdom of Saudi Arabia
Ministry of Education
Najran University
College of Applied Medical Sciences
Radiological Sciences Program**

1. Institution:	Najran University	Date of Report: 25/04/1437H
2. College/Department :	Applied Medical Sciences College/ Radiological Sciences Department	
3. Dean:	Dr. Mohammed Saeed Alayed	
4. Insert program administrative flowchart		

[illegible]

Program Administrative Flowchart



5. List all branches/locations offering this program

Branch/Location 1. Najran university City (Male Section).

Branch/Location 2. Najran university City (Female Section)

A. Program Identification and General Information

1. Program title and code	Radiological Sciences, 1802		
2. Total credit hours needed for completion of the program	142 credit hours (115 Credit Hours plus 27 credit hours preparatory year)		
3. Award granted on completion of the program	Bachelor of Medical Sciences (BMedSci) in Diagnostic Radiological Sciences.		
4. Major tracks/pathways or specializations within the program (eg. transportation or structural engineering within a civil engineering program or counselling or school psychology within a psychology program)	N/A		
5. Intermediate Exit Points and Awards (if any) (eg. associate degree within a bachelor degree program)	N/A		
6. Professional occupations (licensed occupations, if any) for which graduates are prepared. (If there is an early exit point from the program (eg. diploma or associate degree) include professions or occupations at each exit point)	Specialty of Radiological Technologist		
7. (a) New Program <input type="checkbox"/>	Planned starting date	<input type="text"/>	
(b) Continuing Program <input checked="" type="checkbox"/>	Year of most recent major program review		1437 Self-Evaluation
Organization involved in recent major review : 1- AHPGS accreditation (Accreditation Agency in Health and Social Sciences) Date: 21.07.2015 for five-year finish at 30.09-2020 G. 2- Internal review committee unit of learning.			
8. Name of program coordinator or chair. If a program coordinator or chair has been appoint for the female section as well as the male Section, include names of both. 3- Dr. Ali Al Mozhir Head of the department 4- Dr. Alfatih Hessen ALbadri (program coordinator in the male student section) 5- Dr. Suhair Suleiman Assayed (program coordinator in the female student section)			

9. Date of approval by the authorized body (for private institutions and Council of Higher Education for public institutions).

Campus Branch/Location	Approval By	Date
Main Campus: Nairan University City	Council of Higher Education	8/6/1427 H
Main Campus Nairan University City	Council of Higher Education	8/6/1427 H

B. Program Context

1. Explain why the program was established.

a. Summarize economic reasons, social or cultural reasons, technological developments, national policy developments or other reasons.

- Lack of radiographic Technologist staff despite the national urgent need for them especially in the southern region of the Saudi Arabia Kingdom.
- Based on the strategic plan of ministry of health (1431-1440 H), there are demands of the labor market to all qualified graduates in the radiology field, whether in government health institutions or private, and a great shortage of national cadres scientifically highly qualified in diagnostic radiology at the level of the Kingdom and Najran area.
- Increase the social recognition in the role of Radiologic Technology.
- Take advantage of contemporary technologies in the dissemination and health education service.
- Enriching scientific research to serve the developments of the national politics.
- Awareness of safety in health education and environmental protection.

b. Explain the relevance of the program to the mission and goals of the institution.

The mission of the Najran University is to provide distinctive education that meets the needs of the society and the labor market and contributes effectively to the sustainable development through applied research, the optimal use of modern technologies and the active partnership at the local, regional and global levels.

-The relevance of the program to the mission of Najran university summarize as following:

Perpetration of excellent national graduate in the field of medical imaging and radiological sciences through the modern technology and educational methods in the framework of Islamic values.

- The program aims to prepare qualified national graduates in the field of radiological sciences with high degree of knowledge and skills to participate in building a community of science and knowledge.
- Provide work force needed in the society and the labour market in the Kingdom.
- Provide graduates able to use modern equipment in the diagnostic radiology.
- Prepare a MSc. Program of diagnostic medical imaging.
- Prepare a continuous medical imaging learning.
- Working to obtain academic accreditation and assessment nationally and internationally.

- Develop program planning, policies and activities according to the recent and modern international methods.

2. Relationship (if any) to other programs offered by the institution/college/department.

- a. Does this program offer courses that students in other programs are required to take? **Yes** ☒ **No** ☐

If yes, what has been done to make sure those courses meet the needs of students in the other programs?

- Continuous communication with department of Physical Therapy (PT) and sharing with them the courses specification.
- Provide PT Department with course report each semester.
- Provide PT Department with copy of examination.
- Analyzing the feedback from students using course evaluation questionnaires and provide PT Department with enhancement plan.

- b. Does the program require students to take courses taught by other departments? **Yes** ☒ **No** ☐

If yes, what has been done to make sure those courses in other departments meet the needs of students in this program?

- Continuous communication with departments taught these courses and sharing with them the courses specification.
- Feedback from Student's using course evaluation questionnaires.
- Demand other departments (Anatomy, physiology, computer sciences, biochemistry, Medical terminology, physics and biostatistics) to deliver the course report, copy of examination and enhancement plan (if needed) to be evaluated by the radiological sciences program. These courses involve:
 - Anatomy-1 (201 ANAT-2)
 - Anatomy-2 (204 ANAT-2)
 - Physiology (223 PHYS-2)
 - Computer Applications in Health Sciences (250 TECH-2)
 - Introduction to Physics (204 PHST-2)
 - Basics of Biostatistics (241 RESH-2)
 - Medical Terminology

-Applied Biostatistics (242 RESH-1)

-Introduction to Biochemistry (207 BICH-2)

- Joint committees formed with academic programs mention above and professionals to review the courses specification and reports periodically.

1. Do students who are likely to be enrol in the program have any special needs or Characteristics? (e.g. Part time evening students, physical and academic disabilities, limited IT or language skills). **Yes** ☒ **No** ☐

4. What modifications or services are you providing for special needs applicants?

- Medical check-up before admission.
- The students are directed to study the English language and computer skills courses, through the study of two semesters in the general preparation (preparatory year) which contains most of these requirements.

C. Mission, Goals and Objectives

1. Program Mission Statement (insert)

Perpetration of excellent national graduate in the field of medical imaging and radiological sciences through the modern technology and educational methods in the Framework of Islamic values.

2- List program goals (e.g. long term, broad based initiatives for the program, if any)

- 1- Develop students who possess knowledge, skills and attitudes that will insure that they are competent to practice radiological diagnostic imaging safely and effectively.
- 2- Ensure that graduates have appropriate foundation for lifelong learning and further training in branch of radiological diagnostic imaging.
- 3- Help graduates develop to be critical thinkers and problem solvers when managing health problems in the community of Saudi Arabia.

3- List major objectives of the program within to help achieve the mission. For each measurable objective describe the measurable performance indicators to be followed and list the major strategies taken to achieve the objectives.

Measurable objectives	Measurable performance indicators	Major strategies
1-Provide a quality radiological sciences education, and best practices in the field of radiological diagnostic imaging.	1-Students overall rating on the quality of their courses should be at least 75%. 2-Proportion of students entering undergraduate programs who complete those programs in minimum time. 3-Proportion of graduates from undergraduate programs who within six months of graduation are employed	1-Design courses and field training with well-equipped by knowledge competencies and skills. 2-Apply appropriate assessment tools which reflect the objectives of the curriculum. 3-Develop benchmarking system of monitoring students' progress.
2-Prepare students with an appropriate communication skills, problem-solving skills and critical thinking skills.	1- Proportion of successful students in practical training courses should be at least 70%. 2- Proportion evaluation of trainers for students in the internship period should be at least 80%.	1-Develop the tendencies of students and satisfy their needs and refining their talents, and guide them to correct educational guidance. 2- Provide real life opportunities for students to self-learning in clinical courses and internship. 3- Promote collaborative learning in practical session.
3-Prepare students with the highest level of clinical competence and patient care demonstration.	- Increase the employment rate for graduated students to 50 %.	1-improve the curriculum and study plan according to the approved mechanism for periodic program review, taking into account the following points: The recent community needs. Requirements of Saudi commission for health specialties "SCHS". National and international peer programs.
4- Continually improve and develop educational program to insure that students receive relevant and timely instruction as it pertain to medical imaging discipline.	- Increasing the student and staff satisfaction about institutional capability to 75 %. - Increasing the staff to student's ratio. - Increasing the student satisfaction rate with modules quality to 75 % - Increasing the rate of student satisfaction with the quality of learning experiences in the program to 75 %	- Recruit highly qualified academic staff - Review and auditing the program activities by internal auditing committee and external reviewers. - Applying periodically developing and upgrading program. - Continues update of infrastructure needs.
5- Insure that students are well prepared to pass any national and	- Rate of satisfaction of employers should be at least 50 %.	- Recruit highly qualified academic staff - Applying periodically developing and upgrading program.

international certifying examinations	- Rate of Satisfaction of students with their education should be at least 75%.	- Provide proper labs containing all education need. - Provide a modern theoretical education. - Provide suitable practical training opportunities for students. - continues update of infrastructure needs.
6- Students well prepare to apply radiation protection rules effectively.	-Rate of satisfaction of clinical instructors should be at least 75 %. - Rate of Satisfaction of students with their education should be at least 75%.	- Recruit highly qualified academic staff -Provide a modern theoretical education. - Provide suitable practical training opportunities for students.

D. Program Structure and Organization

1. Program Description:

List the core and elective program courses offered each semester from Prep Year to graduation using the below Curriculum Study Plan Table (A separate table is required for each branch IF a given branch/location offers a different study plan).

A program or department manual should be available for students or other stakeholders and a copy Of the information, relating to this program should be attach to the program specification. This information should include required and elective courses, credit hour requirements and department/college and institution requirements, and details of courses to be taken in each year or Semester.

The manual of Radiological Sciences program available in the university website (<http://portal.nu.edu.sa/web/applied-medical-sciences-college/150>) include courses, credit hour requirements and department/college and institution requirements, and details of courses to be taken in each semester. Please see attachment of Program Manual (in Arabic).

Curriculum Study Plan Table

* All courses are required

	Course Code	Course Title	Required or Elective	Credit Hours	College or Program
1 st Year (Preparatory) Semester 1	ENG 140	English: Reading	Required	2	Preparatory year
	ENG 141	English: Writing	Required	2	Preparatory year
	ENG 142	English: Listening & speaking	Required	2	Preparatory year
	ENG 143	Language Skills (Grammars)	Required	2	Preparatory year
	Math 140	Math for Health Sciences	Required	2	Preparatory year
	ETHC 140	Learning and thinking skills	Required	2	Preparatory year
	TECH 140	Computer skills	Required	3	Preparatory year
Total				15	

	Course Code	Course Title	Required or Elective	Credit Hours	College or Department
1 st Year #1 (Preparatory) Semester 2	ENG 150	General English language	Required	3	Preparatory year
	ENG 151	Expository Writing	Required	2	Preparatory year
	ETHC 150	Occupational Ethics	Required	1	Preparatory year
	SCI 150	Communication skills	Required	2	Preparatory year
	Math 150	Math for Health Sciences	Required	4	Preparatory year
Total				12	

	Course Code	Course Title	Required or Elective	Credit Hours	College or Program
2 nd Year Semester 1	111 ISL-2	Introduction to Islamic Culture	Required	2	Sharia and theology
	201 ARB-2	Language Skills-1	Required	2	College of Languages and Translation
	223 PHYS-2	Physiology	Required	2	Physiology Department
	204 PHST-2	Introduction to Physics	Required	2	Radiological Sciences
	250 TECH-2	Computer Applications in Health Sciences	Required	2	Computer Sciences
	231 HIST-2	The Basics of Histology	Required	2	Anatomy Department
	201 ANAT-2	Anatomy -1	Required	2	Anatomy Department
	241 RESH-2	Basics of Biostatistics	Required	2	Biostatistics Department
	207 BICH-2	Introduction to Biochemistry	Required	2	Biochemistry Department
Total				18	

2 nd Year Semester 2	Course Code	Course Title	Required or Elective	Credit Hours	College or Program
	211 RAD -3	Radiation Physics	Required	3	Radiological Sciences
	221 RAD-3	Radiographic Anatomy	Required	3	Radiological Sciences
	223 RAD-3	Basics of General Radiographic Investigations	Required	3	Radiological Sciences
	224 RAD-3	Radiographic Physiology	Required	3	Radiological Sciences
	204 ANAT-2	Anatomy - 2	Required	2	Radiological Sciences
	225 PROF -3	Patient Care	Required	3	Radiological Sciences
	242 RESH-1	Applied Biostatistics	Required	1	Radiological Sciences
	112 ISL-2	Islamic Culture -2	Required	2	Sharia and theology
TOTAL				20	

3 rd Year Semester 1	Course Code	Course Title	Required or Elective	Credit Hours	College or program
	312 RAD -3	Ultrasound Physics & Instrumentation	Required	3	Radiological Sciences
	313 RAD -2	Radiation Protection	Required	2	Radiological Sciences
	222 RAD -3	Techniques of Radiographic Image Recording -1	Required	3	Radiological Sciences
	331 RAD -3	Practical Training (1)	Required	3	Radiological Sciences
	341 RAD -2	Radiological Pathology	Required	2	Radiological Sciences
	324 RAD-3	Special Radiographic Investigations	Required	3	Radiological Sciences
TOTAL				16	

3 rd Year Semester 2	Course Code	Course Title	Required or Elective	Credit Hours	College or program
	304 RAD-2	Cross Sectional Anatomy	Required	2	Radiological Sciences
	314 RAD-2	Nuclear Medicine Physics	Required	2	Radiological Sciences
	325 RAD-3	Ultrasound Investigation Techniques	Required	3	Radiological Sciences
	326 RAD-2	Fluoroscopy Techniques	Required	2	Radiological Sciences
	328 RAD-3	Advanced Imaging Techniques	Required	3	Radiological Sciences
	332 RAD -3	Practical Training (2)	Required	3	Radiological Sciences
	351 RAD -2	Radiation Equipment & Management	Required	2	Radiological Sciences
	329 RAD -2	Techniques of Radiographic Image Recording -2	Required	2	Radiological Sciences
TOTAL				19	

4 th Year Semester 1	Course Code	Course Title	Required or Elective	Credit Hours	College or program
	427 RAD -3	Computerized Tomography Techniques	Required	3	Radiological Sciences
	433 RAD-2	Practical Training (3)	Required	2	Radiological Sciences
	434 RAD -2	Practical Training (4)	Required	2	Radiological Sciences
	452 RAD -3	Advance Equipment	Required	3	Radiological Sciences
	442 RAD -2	Accident and Emergency Radiography	Required	2	Radiological Sciences
	443 RAD -2	Nuclear Medicine Techniques	Required	2	Radiological Sciences
	444 RAD -2	X-Ray Film Reading	Required	2	Radiological Sciences
TOTAL				16	
4 th Year Semester 2			Required or Elective	Credit Hours	College or program
	113 ISL -2	Islamic Culture - 3	Required	2	Sharia and theology
	202 ARB -2	Language Skills- 2	Required	2	College of Languages and Translation
	435 RAD-2	Practical Training (5)	Required	2	Radiological Sciences
	436 RAD-2	Practical Training (6)	Required	2	Radiological Sciences
	445 RAD-3	Magnetic Resonance Imaging Techniques	Required	3	Radiological Sciences
	446 RAD-2	Radiology Departments Management	Required	2	Radiological Sciences
	461 RAD-2	Scientific Research Methodology	Required	2	Radiological Sciences
TOTAL				15	

5 th Year Semester 1	Course Code	Course Title	Required or Elective	Credit Hours	College or program
	114 ISL-2	Islamic Culture -4	Required	2	Sharia and theology
	538 RAD -2	Practical Training (7)	Required	2	Radiological Sciences
	547 RAD -3	Essential of Radiotherapy	Required	3	Radiological Sciences
	548 RAD -2	Applied Radiological Pathology	Required	2	Radiological Sciences
	562 RAD -2	Project Work	Required	2	Radiological Sciences
TOTAL				11	

Total credit hours 115

2. Required Field Experience Component (if any, e.g. internship, cooperative program, work experience).

Summary of practical, clinical or internship component required in the program. Note: see Field Experience Specification

a. Brief description of field experience activity

The internship in radiological sciences program started after completion the 9th semester for period of six months. During this period the student, complete practicing various imaging modalities in the hospital under the supervision of the training coordinators. The assessment methods in the internship return to the logbook and feedback evaluation from the training hospital and training coordinators.

b. At what stage or stages in the program does the field experience occur? (eg. year, semester)

At the completion of the 9 level successfully.

c. Time allocation and scheduling arrangement. (e.g. 3 days per week for 4 weeks, full time for one semester)

Internship starts after one month of completion semester nine as following: Six hours per day, five days per week, six months (8 hours x 5 days x 6 months).

d. Number of credit hours (if any)

No any credits hours

3. Project or Research Requirements (if any)

Summary of any project or thesis requirements in the program. (Other than projects or assignments within individual courses) (A copy of the requirements for the project should be attached.)

a. Brief description

- The students should complete the Project Work course (562RAD-2) which is a mandatory graduation requirement in the radiological sciences program. It is a study of theory, practical, or both in any subject related to the specialty course studied during the program.
- The coordinator of the "Project Work" course will announce the selected topics in the first day of semester nine and demanded the right for students to choose their own proposal after approval.
- Supervision restricted to the program staff.
- Students could work individual or in one group (not exceed three students) to complete one project.

A copy of the requirements for the project work are available, please see attachment #2.

b. List the major intended learning outcomes of the project or research task.

By the end of the project the student should be able to:

- Demonstrate an understanding of main theoretical and practical issues in diagnostic radiology research.
- Describe the purpose, scope, and characteristics of diagnostic radiology research.
- Describe the steps in development of radiology research proposal.
- Analyse, interpret and evaluate diagnostic radiology data.
- Describe the main types and designs for data management.
- Commit as a member of project team responsible for participate in team discussions, duties and think critically.
- Use of references, journals and databases related to the radiology research.
- Use of specialized Internet sites to read more about issues discussed with supervisor.

1.0	Knowledge
1.1	State the necessary skills in scientific research and encourage innovation
1.2	Describe the relation between research, statistics and epidemiology
2.0	Cognitive
2.1	Differentiate between the different tests of hypothesis and use the suitable test for reaching a conclusion
2.2	Design an appropriate presentation tool for the different data types.
2.3	Analyse, state properly the selected problem in terms of core problem [dependant variable/s], and related risk factors [independent variable/s].
3.0	Interpersonal Skills & Responsibility
3.1	Demonstrate ethical and legal manners during performance.
3.2	Show a teamwork spirits.
4.0	Communication, Information Technology, Numerical
4.1	Operate effectively the different informational resources including the library resources and websites in addition to extracting information and data
c. At what stage or stages in the program is the project or research undertaken? (e.g. year, semester) 9th semester, 4th year.	
d. Number of credit hours (if any) Two credit hours	
e. Description of academic advising and support mechanisms for students.	
<ul style="list-style-type: none"> Project orientation. Supervisor ensure that the student a completed the theoretical or practical part of the project. Supervision of initial and final writing and analysis using research guide manual. 	

f. Description of assessment procedures (including mechanism for verification of standards)

The assessment procedures of project start by supervisor evaluation for each student according to commitment of student for participate in team discussions and duties. By the end of project period (end of semester) the Project Committee meets for discussion each students group.

Assessment procedures of committee involve the following:

- Evaluate students' seminar in each group.
- Discuss each student about the methodology and project work.
- Oral questions to individual students related to the research project.
- Calculate the average of assessment results provide by the committee.

The mechanism of assessment procedures summarized as following:

Assessment procedures number	Assessment method	Week due	Proportion
1	<u>Supervisor evaluation (according to commitment of student for participate in team discussions, attendance and duties)</u>		30 %
2	Answer the oral questions provided by the Project Committee.	Last week before university final examinations	40 %
3	Grammatical and typographical errors		10 %
4	Research methodology, alignment of project title with contents, data management		15 %
5	Using references and citation of references in text.		15 %
6	General preparation of the research (printing, packaging, order, ..)		10 %
7	Students seminar		10 %
Total			100 %

4. Learning Outcomes in Domains of Learning, Assessment Methods and Teaching Strategy

Program Learning Outcomes, Assessment Methods, and Teaching Strategy work together and are align. They are join together as one, coherent, unity that collectively articulate a consistent agreement between student learning and teaching.

The *National Qualification Framework* provides five learning domains. Learning outcomes are required in the first four domains and sometimes are also required in the Psychomotor Domain.

On the table below are the five NQF Learning Domains, numbered in the left column. For Program Accreditation there are four learning outcomes required for knowledge and cognitive skills. The other three domains require at least two learning outcomes. Additional learning outcomes are suggest.

First, insert the suitable and measurable learning outcomes required in each of the learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each program learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process.

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Describe the essential concepts of physics including radiation production, interaction of radiation with matter, their biological effects and radiation protection.	- Theoretical lectures. - Practical sessions.	- Continuous assessments. - Written examinations. - Practical examinations - Oral exam
1.2	Recognize the appearance of human anatomy, physiology and pathology on different radiological and medical images.	- Theoretical lectures. - Practical sessions.	Continuous assessments. - Written examinations. Practical examinations - Oral exam.
1.3	Describe the principles of radiographic imaging equipment and techniques.	- Theoretical lectures - Practical sessions	Continuous assessments. - Written examinations. - Practical examinations - Oral exam
1.4	State the methods of patient preparation and patient care for different imaging modalities.	- Theoretical lectures. - Practical sessions	Continuous assessments. - Written examinations. - Practical examinations - Oral exam
2.0	Cognitive Skills		
2.1	Differentiate between the normal and abnormal appearance of medical images.	- Theoretical lectures. - Practical lectures. - Practical training.	- Written examinations. - Practical examinations - Oral exam. - Assignment of research projects to the students.
2.2	Explain the essential sciences concepts necessary for applications of different medical imaging procedures.	- Theoretical lectures. - Practical training.	- Written examinations. - Practical evaluation sheet.
2.3	Estimate the procedures and protocols Appropriate to different medical indications and contraindications.	- Theoretical lectures. - Practical lectures. - Practical training.	- Written examinations. - Oral exam. - Practical examinations
2.4	Compare between the different medical imaging equipment, their functions, operation and quality control.	- Practical lectures. - Practical training.	- Written examinations. - Oral exam. - Practical examinations
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate ethical and legal manners during performance.	- Theoretical lectures. - Practical	- Practical exams. - Continuous evaluation.
3.2	Show a teamwork spirits.	Theoretical lectures. - Practical training.	Practical exams. - Continuous evaluation.

4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate the skills of entering and extracting information and data in medical imaging procedures effectively.	- Theoretical lectures.	- Practical exams. - Oral exam. Continuous evaluation.
4.2	Operate the different informational resources including the library resources and websites effectively and efficiently.	- computer lab - Supervise the students during their visits to the university library	- Practical examinations - Continuous evaluation.
5.0	Psychomotor		
5.1	Perform accurately and safely the procedures and protocols in different modalities to produce high image quality.	Practical training	- Practical examinations
5.2	Manipulate the patient effectively applying patient care and protection for medical imaging procedures.	Practical training	- Continuous evaluation

Suggested assessment methods and teaching strategies are:

According to research and best practices, multiple and continuous assessment methods are required to verify student learning. Current trends incorporate a wide range of rubric assessment tools; including web-based student performance systems that apply rubrics, benchmarks, KPIs, and analysis. Rubrics are especially helpful for qualitative evaluation. Differentiated assessment strategies include: exams, portfolios, long and short essays, log books, analytical reports, individual and group presentations, posters, journals, case studies, lab manuals, video analysis, group reports, lab reports, debates, speeches, learning logs, peer evaluations, self-evaluations, videos, graphs, dramatic performances, tables, demonstrations, graphic organizers, discussion forums, interviews, learning contracts, antidotal notes, artwork, KWL charts, and concept mapping.

Program Learning Outcome Mapping Matrix

Identify on the table below the courses that are required to teach the program learning outcomes. Insert the program learning outcomes, according to the level of instruction, from the above table below and indicate the courses and levels that are required to teach each one; use your program's course numbers across the top and the following level scale. Levels: I = Introduction P = Proficient A = Advanced

NQF Learning Domains and Learning Outcomes		Level 3								
		111 ISL-2	201 ARB-2	223 PHYS-2	204 PHST-2	250 TECH-2	231 HIST-2	201 ANAT-2	241 RESH-2	207 BICH-2
1.0	Knowledge									
1.1	Describe the essential concepts of physics including radiation production, interaction of radiation with matter, their biological effects and radiation protection.				I					I
1.2	Recognize the appearance of human anatomy, physiology and pathology on different radiological and medical images.			I			I	I		
1.3	Describe the principles of radiographic imaging equipment and techniques.									
1.4	State the methods of patient preparation and patient care for different imaging modalities.									
2.0	Cognitive									
2.1	Differentiate between the normal and abnormal appearance of medical images.			I				I		I
2.2	Explain the essential sciences concepts necessary for applications of different medical imaging procedures.				I					
2.3	Estimate the procedures and protocols Appropriate to different medical indications and contraindications.									
2.4	Compare between the different medical imaging equipment, their functions, operation and quality control.									
3.0	Interpersonal skill									
3.1	Demonstrate ethical and legal manners during performance.	I								
3.2	Show a teamwork spirits.			I	I	I	I	I		I
4.0	Communication & numerical									
4.1	Communicate effectively in both Arabic and English languages with health care team, patients and their families.		I							
4.2	Operate effectively the different informational resources including the library resources and websites in addition to extracting information and data in medical imaging procedures.			I	I	I	I	I	I	I
5.0	Psychomotor									
5.1	Perform accurately and safely the procedures and protocols in different modalities to produce high image quality.				I					
5.2	Manipulate the patient effectively applying patient care and protection for medical imaging procedures.			I						I

NQF Learning Domains and Learning Outcomes		Level 4							
		211 RAD-3	221 RAD-3	223 RAD-3	224 RAD-3	204 ANAT-2	225 PROF-3	242 RESH-1	112 ISL-2
1.0	Knowledge								
1.1	Describe the essential concepts of physics including radiation production, interaction of radiation with matter, their biological effects and radiation protection.	I		P					
1.2	Recognize the appearance of human anatomy, physiology and pathology on different radiological and medical images.		P	P	I	I			
1.3	Describe the principles of radiographic imaging equipment and techniques.			P					
1.4	State the methods of patient preparation and patient care for different imaging modalities.			P					
2.0	Cognitive								
2.1	Differentiate between the normal and abnormal appearance of medical images.		P		I	I			
2.2	Explain the essential sciences concepts necessary for applications of different medical imaging procedures.	I	P	P			I		
2.3	Estimate the procedures and protocols Appropriate to different medical indications and contraindications.			P					
2.4	Compare between the different medical imaging equipment, their functions, operation and quality control.								
3.0	Interpersonal skill								
3.1	Demonstrate ethical and legal manners during performance.								I
3.2	Show a teamwork spirits.	I	I	I	I	I	I		
4.0	Communication & numerical								
4.1	Communicate effectively in both Arabic and English languages with health care team, patients and their families.								
4.2	Operate effectively the different informational resources including the library resources and websites in addition to extracting information and data in medical imaging procedures.	I	I	I	I	I	I	I	
5.0	Psychomotor								
5.1	Perform accurately and safely the procedures and protocols in different modalities to produce high image quality.	I		P					
5.2	Manipulate the patient effectively applying patient care and protection for medical imaging procedures.			P			P		

NQF Learning Domains and Learning Outcomes		Level 5					
		312 RAD -3	313 RAD -2	222 RAD -3	331 RAD -3	341 RAD -2	324 RAD-3
1.0	Knowledge						
1.1	Describe the essential concepts of physics including radiation production, interaction of radiation with matter, their biological effects and radiation protection.	P	I	P			
1.2	Recognize the appearance of human anatomy, physiology and pathology on different radiological and medical images.			P		I	P
1.3	Describe the principles of radiographic imaging equipment and techniques.	P		P	P		P
1.4	State the methods of patient preparation and patient care for different imaging modalities.						P
2.0	Cognitive						
2.1	Differentiate between the normal and abnormal appearance of medical images.				P	I	P
2.2	Explain the essential sciences concepts necessary for applications of different medical imaging procedures.	P	I	P			P
2.3	Estimate the procedures and protocols Appropriate to different medical indications and contraindications.						P
2.4	Compare between the different medical imaging equipment, their functions, operation and quality control.	P		P	P		P
3.0	Interpersonal skill						
3.1	Demonstrate ethical and legal manners during performance.						
3.2	Show a teamwork spirits.	I	I	I	I	I	I
4.0	Communication & numerical						
4.1	Communicate effectively in both Arabic and English languages with health care team, patients and their families.						
4.2	Operate effectively the different informational resources including the library resources and websites in addition to extracting information and data in medical imaging procedures.	I	I	I	I	I	I
5.0	Psychomotor						
5.1	Perform accurately and safely the procedures and protocols in different modalities to produce high image quality.	P		P	P		P
5.2	Manipulate the patient effectively applying patient care and protection for medical imaging procedures.		I		P		P

NQF Learning Domains and Learning Outcomes		Level 6							
		304 RAD-2	314 RAD-2	325 RAD-3	326 RAD-2	328 RAD-3	332 RAD-3	351 RAD-2	329 RAD-2
1.0	Knowledge								
1.1	Describe the essential concepts of physics including radiation production, interaction of radiation with matter, their biological effects and radiation protection.		P					P	P
1.2	Recognize the appearance of human anatomy, physiology and pathology on different radiological and medical images.	P		P	P	P			P
1.3	Describe the principles of radiographic imaging equipment and techniques.		P	P	P	P	P	P	P
1.4	State the methods of patient preparation and patient care for different imaging modalities.			P	P	P			
2.0	Cognitive								
2.1	Differentiate between the normal and abnormal appearance of medical images.	P		P	P	P	P		
2.2	Explain the essential sciences concepts necessary for applications of different medical imaging procedures.					P			P
2.3	Estimate the procedures and protocols Appropriate to different medical indications and contraindications.			P	P	P			
2.4	Compare between the different medical imaging equipment, their functions, operation and quality control.		P			P	P		
3.0	Interpersonal skill								
3.1	Demonstrate ethical and legal manners during performance.						I		
3.2	Show a teamwork spirits.	I	I	I	I	I	I	I	I
4.0	Communication & numerical								
4.1	Communicate effectively in both Arabic and English languages with health care team, patients and their families.								
4.2	Operate effectively the different informational resources including the library resources and websites in addition to extracting information and data in medical imaging procedures.	I	I	I	I	I	I	I	I
5.0	Psychomotor								
5.1	Perform accurately and safely the procedures and protocols in different modalities to produce high image quality.			P	P	P	P		P
5.2	Manipulate the patient effectively applying patient care and protection for medical imaging procedures.			P	P	P	P		

NQF Learning Domains and Learning Outcomes		Level 7						
		427 RAD -3	433 RAD-2	434 RAD -2	452 RAD -3	442 RAD -2	443 RAD -2	444 RAD -2
1.0	Knowledge							
1.1	Describe the essential concepts of physics including radiation production, interaction of radiation with matter, their biological effects and radiation protection.	I	P	A	A			
1.2	Recognize the appearance of human anatomy, physiology and pathology on different radiological and medical images.	I	P	A			P	P
1.3	Describe the principles of radiographic imaging equipment and techniques.	P	P	A	A	P	P	
1.4	State the methods of patient preparation and patient care for different imaging modalities.	P	P	A			P	
2.0	Cognitive							
2.1	Differentiate between the normal and abnormal appearance of medical images.	P	P	A			P	P
2.2	Explain the essential sciences concepts necessary for applications of different medical imaging procedures.	P	P	A				
2.3	Estimate the procedures and protocols Appropriate to different medical indications and contraindications.	P	P	A		P	P	
2.4	Compare between the different medical imaging equipment, their functions, operation and quality control.	P			A		P	
3.0	Interpersonal skill							
3.1	Demonstrate ethical and legal manners during performance.							
3.2	Show a teamwork spirits.	I	I	I	I	I	I	I
4.0	Communication & numerical							
4.1	Communicate effectively in both Arabic and English languages with health care team, patients and their families.							
4.2	Operate effectively the different informational resources including the library resources and websites in addition to extracting information and data in medical imaging procedures.	I	I	I	I	I	I	I
5.0	Psychomotor							
5.1	Perform accurately and safely the procedures and protocols in different modalities to produce high image quality.	P	P	P				
5.2	Manipulate the patient effectively applying patient care and protection for medical imaging procedures.	P	P	P				

NQF Learning Domains and Learning Outcomes		Level 8						
		113 ISL -2	202 ARB -2	435 RAD-2	436 RAD-2	445 RAD-3	446 RAD-2	461 RAD-2
1.0	Knowledge							
1.1	Describe the essential concepts of physics including radiation production, interaction of radiation with matter, their biological effects and radiation protection.							
1.2	Recognize the appearance of human anatomy, physiology and pathology on different radiological and medical images.							
1.3	Describe the principles of radiographic imaging equipment and techniques.			A	A	A		
1.4	State the methods of patient preparation and patient care for different imaging modalities.					A	P	
2.0	Cognitive							
2.1	Differentiate between the normal and abnormal appearance of medical images.			A	A			
2.2	Explain the essential sciences concepts necessary for applications of different medical imaging procedures.					A		
2.3	Estimate the procedures and protocols Appropriate to different medical indications and contraindications.			A		A		
2.4	Compare between the different medical imaging equipment, their functions, operation and quality control.			A	A			
3.0	Interpersonal skill							
3.1	Demonstrate ethical and legal manners during performance.	I						
3.2	Show a teamwork spirits.			I	I	I	I	I
4.0	Communication & numerical							
4.1	Communicate effectively in both Arabic and English languages with health care team, patients and their families.		I					
4.2	Operate effectively the different informational resources including the library resources and websites in addition to extracting information and data in medical imaging procedures.			I	I	I	I	A
5.0	Psychomotor							
5.1	Perform accurately and safely the procedures and protocols in different modalities to produce high image quality.			A	A	A		
5.2	Manipulate the patient effectively applying patient care and protection for medical imaging procedures.			A	A	A		

NQF Learning Domains and Learning Outcomes		Level 9				
		114 ISL-2	538 RAD -2	547 RAD -3	548 RAD -2	562 RAD -2
1.0	Knowledge					
1.1	Describe the essential concepts of physics including radiation production, interaction of radiation with matter, their biological effects and radiation protection.			I		
1.2	Recognize the appearance of human anatomy, physiology and pathology on different radiological and medical images.				P	
1.3	Describe the principles of radiographic imaging equipment and techniques.		A			
1.4	State the methods of patient preparation and patient care for different imaging modalities.					
2.0	Cognitive					
2.1	Differentiate between the normal and abnormal appearance of medical images.		A		P	
2.2	Explain the essential sciences concepts necessary for applications of different medical imaging procedures.					
2.3	Estimate the procedures and protocols Appropriate to different medical indications and contraindications.					
2.4	Compare between the different medical imaging equipment, their functions, operation and quality control.		A			
3.0	Interpersonal skill					
3.1	Demonstrate ethical and legal manners during performance.	I	I			
3.2	Show a teamwork spirits.		I	I	I	A
4.0	Communication & numerical					
4.1	Communicate effectively in both Arabic and English languages with health care team, patients and their families.					A
4.2	Operate effectively the different informational resources including the library resources and websites in addition to extracting information and data in medical imaging procedures.		I	I	I	A
5.0	Psychomotor					
5.1	Perform accurately and safely the procedures and protocols in different modalities to produce high image quality.		A			
5.2	Manipulate the patient effectively applying patient care and protection for medical imaging procedures.		A			

5. Admission Requirements for the program

Attach handbook or bulletin description of admission requirements including any course or experience prerequisites.

Attached the Deanship of Admission and Registration , Najran University regulations

The students awarded The Saudi Secondary School Certificate (science section) or its equivalent and passed Aptitude Exam (provided by National Centre for Assessment in Higher Education,). The priority of acceptance for admission have been given to those applicants with the highest equivalent percentage (70% of the secondary school grade + 30% of aptitude exam grade). Applications submitted electronically to the Deanship of Admission and Registration in the specified periods for each semester.

6. Attendance and Completion Requirements

Attach handbook or bulletin description of requirements for:

- Attendance.
- Progression from year to year.
- Program completion or graduation requirements.

Attached the Deanship of Admission and Registration , Najran University regulations

- Attendance.

In accordance with the university regulations concerning undergraduate tuition and examinations issued by the high education council decision number (5/2) taken in its session (Second) of the High Education Council on 11/06/1416.

b. Progression from year to year.

- The student may advance to the next level if the student successfully passes all the requirements of the course at a particular level.
- The student is consider struggling if the student fails to succeed in completing the requirements of a particular course level; and the student shall remain in the same level until it is successfully completed.
- The student may register up to two levels from their current registered level. ·
- The student is register to the next levels and the academic burden of the student is related to their cumulative grade, ensuring that the number of registered credit hours is not less than the minimum number of credits allowed.
- c. Program completion or graduation requirements.
- Successful completion of the 142 credit hours for all course work.
- Successful completion of the internship year.

E. Regulations for Student Assessment and Verification of Standards

What processes will be use for verifying standards of achievement (eg check marking of sample of tests or assignments? Independent assessment by faculty from another institution) (Processes may vary for different courses or domains of learning.)

- Studying the students' opinions, through their filled questionnaires regarding each course and taking appropriate remedial action.
- Review of the examination paper by a college.
- Plan to make an agreement with other universities in the field of Regulations for Student Assessment and Verification of Standards

F Student Administration and Support

1. Student Academic Counselling

Describe the arrangements for academic counselling and advising for students, including both scheduling of faculty office hours and advising on program planning, subject selection and career planning (which might be available at college level).

- Academic guidance and supervision.
- The allocation by the academic staff members of office hours for students' support.

Attached Academic counselling lists

2. Student Appeals

Attach the regulations for student appeals on academic matters, including processes for consideration of those appeals.

- Students' appeals are dealt with according to the academic regulations of the university which was issued by the high education council decision number (5/2), taken in its session (second) of the High Education Council on 11/06/1416.

Attached

G. Learning Resources, Facilities and Equipment

1a. What processes are followed by faculty and teaching staff for planning and acquisition of textbooks, reference and other resource material including electronic and web based resources?

- The academic staff members have to determine a number of references for the students that are relevant to the courses.
- A number of approved and authorised web sites are indicated for the same purpose.
- The coordination with a number of libraries/bookshops to be visited by the students as well as the provision of textbooks and references at a short notice by the concerned libraries/bookshops.
- A list of the required textbooks and references is usually submitted to the college administration to be made available.

1b. What processes are followed by faculty and teaching staff for planning and acquisition resources for library, laboratories, and classrooms.

- Works questionnaire for students and faculty members to the contents of the labs and classrooms
- Tenders annual work to bring more of the needs of teaching.
- Follow-up in the market for new equipment and teaching it to the bushing.
- Taking the opinion of the employers to know their needs to produce qualified graduates.

2. What processes are followed by faculty and teaching staff for evaluating the adequacy of textbooks, reference and other resource provisions?

- Formation of technical academic committees to evaluate the suitability of the various references and textbooks to the needs of the course.
- The periodic evaluation of the course programme by these committees.
- To conduct a questionnaire in order to explore the students' opinions regarding the availability and suitability of the references and textbooks.

-Updating annually the library with the required textbooks. -Training the students on how to use the E-library.
3. What processes followed by students for evaluating the adequacy of textbooks, reference and other resource provisions? - Student evaluation questionnaires (See Appendix 1)
4. What processes followed for textbook acquisition and approval? - The requests from the teaching staff for providing the textbooks are submitted for approval first to the head of the department, then to the dean of the college of applied medical sciences and finally to the deanship of the libraries. (See Appendix 2)

H. Faculty and other Teaching Staff

1. Appointments

Summarize the process of employment of new faculty and teaching staff to ensure that they are appropriately qualified and experienced for their teaching responsibilities.

- A number of standards and requirements are being laid down for the selection of qualified academic staff members among the candidates.
- Conducting interviews with the candidates to assess their qualifications.
- Selecting academic staff members on the basis of those with qualifications obtained from distinguished universities.
- Priority in selection is given to academics with teaching experience, peer-reviewed publications, authors of textbooks and those involved in research.

2. Participation in Program Planning, Monitoring and Review

a. Explain the process for consultation with and involvement of teaching staff in monitoring program quality, annual review and planning for improvement.

- Encouraging the soul of initiative and creation.
- The distribution of cultivating pamphlets concerning development and quality.
- Encouraging the academic staff members to attend development and quality oriented seminars and workshops.
- The presentation of successful experiences concerning development and quality.
- Inviting academic staff members to submit their recommendations and suggestions for the best ways to develop the curricula of the university.
- Selecting high calibre specialists and trainers to participate in the training sessions regarding development and quality.

b. Explain the process of the Advisory Committee (if applicable)

- Provide technical advice for the programme.
- Planning for the work programs of postgraduate.
- Open channels to run graduates.

3. Professional; Development

What arrangements are made for professional development of faculty and teaching staff for:

a. Improvement of skills in teaching and student assessment?

- Encouraging the soul of initiative and creation.
- The distribution of cultivating pamphlets concerning development and quality.
- Encouraging the academic staff members to attend development and quality oriented seminars and workshops.
- The presentation of successful experiences concerning development and quality.
- Inviting academic staff members to submit their recommendations and suggestions for the best ways to develop the curricula of the university.
- Selecting high calibre specialists and trainers to participate in the training sessions regarding development and quality.

- b. Other professional development including knowledge of research and developments in their field of teaching specialty?
- Stimulating and encouraging the academic staff members to attend scientific conferences and seminars.
 - Holding scientific meetings of the academic staff members on a regular basis.

4. Preparation of New Faculty and Teaching Staff

- Describe the process used for orientation and induction of new, visiting or part time teaching staff to ensure full understanding of the program and the role of the course(s) they teach as components within it.
- The department guide.
 - Passing teaching experience to newly appointed academic staff members from other experienced academic staff members.
 - Field visits.
 - Initiation programme.

5. Part Time and Visiting Faculty and Teaching Staff

- Provide a summary of Program/Department/College/institution policy on appointment of part time and visiting teaching staff. (ie. Approvals required, selection process, proportion to total teaching staff, etc.)
- Not applicable.

I. Program Evaluation and Improvement Processes

1. Effectiveness of Teaching

- a. What processes are used to evaluate and improve the strategies for developing learning outcomes in the different domains of learning? (eg. assessment of learning achieved, advice on consistency with learning theory for different types of learning, assessment of understanding and skill of teaching staff in using different strategies)
- Assessing the evaluations of the graduates by the directors of medical laboratories (in public and private hospitals, health care centres, etc).
 - Assessing the graduates' evaluations of the courses and the academic programme.
 - Seeking evaluations of specialist academic bodies.
 - Advising committee.
 - Regional standards, benchmarking.
- b. What processes are used for evaluating the skills of faculty and teaching staff in using the planned strategies?
- To hold training sessions and workshops to develop their different skills.
 - To conduct questionnaires in order to have a feedback from the students, graduates and directors of health care facilities regarding the courses and the academic programme as a whole.

2. Overall Program Evaluation




- a. What strategies are used in the program for obtaining assessments of the overall quality of the program and achievement of its intended learning outcomes:
- Distributing questionnaires to the graduates-to-be in order to explore their opinion regarding the courses and the programme in general.
 - Employers advisement should be taken.
- (i) From current students and graduates of the program?
- Distributing questionnaires to the students and graduates-to-be in order to explore their opinion regarding the courses and the programme in general.
- (ii) From independent advisors and/or evaluator(s)?
- external auditing
- (iii) From employers and/or other stakeholders.
- The feedback assessments from the directors of laboratories in health care facilities (hospitals, healthcare centres, etc).

2. Attachments:

1. Copies of regulations and other documents referred to in template preceded by a table of contents.

2. Course specifications for all courses including field experience specification if applicable.

Authorized Signatures

Dean / Chair العميد / رئيس	Name	Title	Signature	Date
Program Dean or program chair Main Campus	Dr. Ali Almozher	Head of department		24-06-1438 H
Branch 1	Dr. Alfatih Hassan Albadri	Program Coordinator Male Section		24-06-1438 H
Branch 2	Dr. Mwahib Syed Ahmed Aldosh	Program Coordinator Female Section		24-06-1438 H

