





# **Program Specification**

**Program Name:** Radiological Sciences **Qualification Level :** The 7<sup>th</sup> level **Department:** Radiological Sciences **College:** Applied Medical Sciences **Institution:** Najran University



# A. Program Identification and General Information

1. Program Main Location:					
Main campus of Najran University					
2. Branches Offering the Program:					
None					
<b>3.</b> Reasons for Establishing the Program:					
(Economic, social, cultural, and technological reasons, a	nd national needs	and development, etc.)			
1- Fill the gap in number of the national radi	ological techno	logists in Saudi Arabia			
<ol> <li>Matching the rapid advance in the field of technology.</li> </ol>	Fradiological ar	nd medical imaging			
3- Enhance the role of medical imaging tech	nology in Natio	onal community.			
4- Enriching scientific research to serve the	developments o	f the national politics.			
5- Increase the awareness of safety and prote	ection in health	education.			
4. Total Credit Hours for Completing the Pr	ogram: (142)				
<b>5. Learning Hours:</b> ( <b>6030</b> ) The length of time that a learner takes to complete lea	rning activities th	at lead to achievement of program			
learning outcomes, such as study time, homework assign	nents, projects, pro	eparing presentations, library times)			
6. Professional Occupations/Jobs:					
Radiological Sciences Technologist					
Academics.					
• Medical imaging application and sales	s specialist.				
• Medical bioinformatics and quality as	surance special	ist.			
Radiation protection officer.					
7. Major Tracks/Pathways (if any): NA					
Major track/pathway	Credit hours (For each track)	Professional Occupations/Jobs (For each track)			
1. No tracks/pathways					
8 Intermediate Exit Points/Awarded Degree (if any): NA					
Intermediate exit points/awarded degree		Credit hours			
1. No intermediate exit for the Degree					



### **B.** Mission, Goals, and Learning Outcomes

#### 1. Program Mission:

Preparation of distinguished technological specialists in the fields of radiological sciences and medical imaging with the knowledge of basics of scientific research through modern technologies and teaching methods, within the framework of Islamic values.

#### 2. Program Goals:

At the end of this program, students will be able to:

- 1- Perform different medical imaging procedures competently and safely.
- 2- Acquire an interpretable high quality image utilizing different imaging modalities.
- 3- Demonstrate a teamwork spirit with effective communication and management.
- 4- Demonstrate critical thinking skills based on professional standards.
- 5- Understand the basics of medical scientific research.

# **3.** Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.

The mission of the university states offering teaching and learning that address the needs of society and the labor market. The program mission agrees with the university missions in providing high standard education that is essential to graduate qualified radiologists to meet the community needs.

The program mission come to an agreement with the mission of the college in preparing distinguished national cadres in the disciplines of the applied medical professions as the mission of the program is to prepare competitive radiologists equipped with clinical experience and skills.

The program goals agree with university goals in graduating distinguished students with great efficiency and with the college goals in preparing scientifically qualified graduates who are capable of self-learning. The program goals focus on building the basic knowledge framework with clinical capability and on developing research skills and self-learning abilities.

#### 4. Graduate Attributes:

- 1. Able to manage and operate the different medical imaging modalities effectively and accurately.
- 2. Perform the medical imaging procedures with high competence
- 3. Apply patient's safety rules with emphasis on patient care and radiation protection.
- 4. Exhibit an effective communication, problem-solving and critical thinking skills.
- 5. Display a broad understanding of social and ethical responsibilities.
- 6. Possess the basics knowledge of medical scientific research and keep pace with the latest devolvement and technology in the field of radiological sciences.
- 7. Able to initially evaluate the medical images of different modalities and differentiate between the normal and abnormal appearance.

5Prog	5Program learning Outcomes*						
Know	vledge :						
K1	Explain the concepts of basic principles of medical sciences, physics and the						
K)	Describe the methods of different medical imaging procedures						
<b>N</b> 2	Describe the methods of different medical imaging procedures.						



Skills	
<b>S1</b>	Practice basics and medical sciences applications and imaging procedures in medical laboratories with the optimal patient care and protection.
<b>S2</b>	Operate effectively and safely the different medical imaging modalities.
<b>S</b> 3	Evaluate the medical images of different modalities and differentiate between the normal and abnormal appearance.
<b>S4</b>	Demonstrate basics management and research skills.
Com	petence
C1	Manage the operation of different medical imaging modalities effectively and accurately.
C2	Acquire an interpretable high quality image utilizing different imaging modalities.
C3	Carry out the optimal imaging examinations dependant on the assessment of patient conditions and safety requirements with ethical and legal manners.
C4	Effectively communication with patient, colleagues and other health professionals.
C5	Demonstrate teamwork and inter-professional collaboration

\* Add a table for each track and exit Point (if any)



## C. Curriculum

#### **1. Curriculum Structure**

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Dequirements	Required	6	12	8.5%
Institution Requirements	Elective			
College Dequirements	Required	-	-	-
Conege Requirements	Elective			
<b>Program Paguinamenta</b>	Required	57	130	91.5%
r rogram Requirements	Elective			
<b>Capstone Course/Project</b>		NA	NA	NA
Field Experience/ Internship		6 months internship	NA	NA
Others		None	None	None
Total		63	142	100%

\* Add a table for each track (if any)

#### 2. Program Study Plan

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	140 MATH	Introduction to	Required	-	2	Program
	140 314 334	Mathematics	D 1			
	140 NAJM	Reading skill	Required	-	2	Program
Level	141 NAJM	Writing skill	Required		2	Program
1	142 NAJM	Listening and speaking skill	Required	-	2	Program
-	143 NAJM	Grammar and vocabulary	Required	-	2	Program
	140 SKILL	Learning ,thinking and research skills	Required	-	2	Program
	140 TECH	Computer skill-1	Required	-	2	Program
	150 MATH	Calculus I	Required	-	4	Program
	150 NAJM	General English	Required	-	3	Program
Level	151 NAJM	Technical Report writing	Required	-	2	Program
2	150 SKILL	Professional ethics	Required	-	1	Program
	150 SKILL	Communication skills	Required	-	2	Program
	150 TECH	Computer skill-2	Required	-	1	Program
	ISLM 111	Islamic Culture 1	Required	-	2	Institution
	ARB 201	Arab Writing Skills1	Required	-	2	Institution
	223 PHYS	Physiology	Required	-	2	Program
	204 PHST	Introduction to Physics	Required	-	2	Program
	250 TECH	Computer Applications in Health Sciences	Required	-	2	Program
Level 3	231 HIST	The Basics of Histology	Required	-	2	Program
	201 ANT	Anatomy -1	Required	-	2	Program
	241 RESH	Basics of Biostatistics	Required	-	2	Program
	207 BICH	Introduction to Biochemistry	Required	-	2	Program



Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	ISLM 112	Islamic Culture 12	Required		2	Institution
	211 RAD	Radiation Physics	Required	204 PHST	3	Program
	221 RAD	Radiographic Anatomy	Required	201 ANT	3	Program
	223 RAD	Basics of General Radiographic Investigations	Required	201 ANT	3	Program
Level 4	224 RAD	Radiographic Physiology	Required	223 PHYS	3	Program
	204 ANT	Anatomy – 2	Required	201 ANT	2	Program
	242 RESH	Applied Biostatistics	Required	241 RESH	1	Program
	225 PROF	Patient Care	Required	-	3	Program
	312 RAD	Ultrasound Physics & Instrumentation	Required	204 RAD	3	Program
	313 RAD	Radiation Protection	Required	211 RAD	2	Program
Level 5	222RAD	Techniques of Radiographic Image Recording -1	Required	-	3	Program
	331 RAD	Practical Training (1)	Required	223 RAD	3	Program
	341 RAD	Radiological Pathology	Required		2	Program
	324 RAD	Special Radiographic Investigations	Required	223 RAD	3	Program
	304 RAD	Cross Sectional Anatomy	Required	204 ANT	2	Program
Lovol	314 RAD	Nuclear Medicine Physics	Required Dequired	-	2	Program
6	325 RAD	Techniques	Required	312 RAD	3	Program
	326 RAD	Fluoroscopy Techniques	Required	-	2	Program
	328 RAD	Advanced Imaging Techniques	Required	-	3	Program
	332 RAD	Practical Training (2)	Required	324 RAD	3	Program
	351 RAD	Radiation Equipment & Management	Required	-	2	Program
	329 RAD	Techniques of Radiographic Image Recording -2	Required	222RAD	2	Program
	427 RAD	Computerized Tomography Techniques	Required	304 RAD	3	Program
Level	433 RAD	Practical Training (3)	Required	331 RAD	2	Program
7	434 RAD	Practical Training (4)	Required	325 RAD	2	Program
	432 RAD 442 RAD	Advance Equipment Accident and Emergency Radiography	Required	-	2	Program
	443 RAD	Nuclear Medicine Techniques	Required	314 RAD	2	Program
	444 RAD	X-Ray Film Reading	Required	-	2	Program
	ISLM 113	Islamic Culture 3	Required	-	2	Institution
	ARB 202	Arab writing Skills2	Required	-	2	Institution
Level	435 RAD	Practical Training (5)	Required	427 RAD	2	Program
ð	436 RAD	Practical Training (6)	Required	443 RAD	2	Program
	445 RAD	Magnetic Resonance Imaging Techniques	Required	-	3	Program
	446 RAD	Required	-	2	Program	



Level	Course Code	Course Title	<b>Required</b> or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College or Department)
	461 RAD	Scientific Research Methodology	Required	-	2	Program
Level	ISLM 114	Islamic Culture 4	Required		2	Institution
9	438 RAD	Practical Training (7)	Required	445 RAD	2	Program
	547 RAD	Essential of Radiotherapy	Required	-	3	Program
	548 RAD	Applied Radiological Pathology	Required	-	2	Program
	562 RAD	Project Work	Required	461 RAD	2	Program
		Internship	Required			Program

\* Include additional levels if needed

\*\* Add a table for each track (if any)

#### **3.** Course Specifications

Insert hyperlink for all course specifications using NCAAA template

The manual of Radiological Sciences program available in the university website (<u>http://portal.nu.edu.sa/web/applied-medical-sciences-college/150</u>). Please see attachment

#### 4. Program learning Outcomes Mapping Matrix

Align the program learning outcomes with program courses, according to the following desired levels of performance (I = Introduced P = Practiced M = Mastered)

	Program learning Outcomes										
	Know	ledge		Ski	ills			CON	<b>MPETENO</b>	CES	
Course	K.1	K2	<b>S1</b>	S2	<b>S3</b>	<b>S4</b>	C1	C2	C3	C4	C5
English Language:	Ι									Ι	
Reading skills											
English Language:	Ι									Ι	
Writing skills											
English Language:	Ι									Ι	
Listening and											
Conversation Skills											
English Language:	Ι									Ι	
Grammars											
Introduction To	Ι										
Mathematics											
Ideation and	Ι										
Thinking Skills											
Computer Skills	Ι										
General English	Ι									Ι	
Language											
Writing Reports	Ι									Ι	
Professional Ethics	Ι										
Communication	Ι										
Skills											
Algebraic Sciences	Ι										
Introduction to											Ι
Islamic Culture											



Language Skills-1										Ι	
Physiology	Р		- 1		- 1						
Introduction to	Р		1			1					
Physics											
Computer	1					I.					
Applications in											
Health Sciences											
The Basics of	Р		1			- I					
Histology											
Anatomy -1	Р										
Basics of	1					1					
Biostatistics											
Introduction to	Р		1			1					
Biochemistry											
Radiation Physics	Μ		1			1					
Radiographic	Μ				- 1						
Anatomy											
Basics of General		- 1	Р	Р		Р	I				
Radiographic											
Investigations											
Radiographic	М				- 1						
Physiology											
Anatomy - 2	М				Р						
Patient Care		1	Р			Р					
Applied Biostatistics	Ι					1					
Islamic Culture -2											I
Illtrasound Physics		1	P			P					-
& Instrumentation											
Radiation Protection	М		1			P					
Techniques of	101	1		1	D		1				
Radiographic Image				'							
Recording 1											
Practical Training			D	D	D		D	D	D	D	D
(1)									r	, r	
Radiological	М				D						
Pathology	111										
Special		1	P	P	P		P				P
Radiographic											
Investigations											
Cross Sectional	М				Р						
Anatomy											
Nuclear Medicine	М	Р	Р			1					
Physics											
Ultrasound	М	М	М	М		М	Р	М			Р
Investigation											
Techniques											
Fluoroscopy	М	Μ	Μ	Μ	Р		Р	Μ			
Techniques								-			
Advanced Imaging		Μ	Μ	Μ		Р	Р	Μ			
Techniques								-			
Practical Training			Р	Μ	Р		Р	Р	М	М	Μ
(2)											



Radiation		I				Р	Р				
Equipment &											
Management											
Techniques of		I	Р			Р	1				
Radiographic Image											
Recording -2											
Computerized	Μ	Μ	Μ	Μ	Μ		Р	Μ			Р
Tomography											
Techniques											
Practical Training			Μ	Μ	Μ		Μ	Μ	Μ	Μ	Μ
(3)											
Practical Training			Μ	Μ	Μ		Μ	Μ	Μ	Μ	Μ
(4)											
Advance		Μ	Μ	Р		Р	Р	Р			
Equipment's											
Accident and		Р	Р	Р	Μ		Р	Р	Μ		М
Emergency											
Radiography											
Nuclear Medicine	Μ	Μ	Μ			Μ					
Techniques											
X-Ray Film Reading		Р			Μ						
Islamic Culture - 3											
Language Skills- 2											
Practical Training			Μ	Μ	Μ		Μ	Μ	Μ	Μ	М
(5)											
Practical Training			Μ	Μ	Μ		Μ	Μ	Μ	Μ	М
(6)											
Magnetic Resonance	Μ	Μ	Μ	Μ		Μ	Μ	Μ	Μ		Р
Imaging Techniques											
Radiology						Р					
Departments											
Management											
Scientific Research						Р					
Methodology											
Islamic Culture -4											Ι
Practical Training			Μ	Μ	Μ		Μ	Μ	М	М	М
(7)											
Essential of	Μ	Р	Р			Р	Р				
Radiotherapy											
Applied	Μ	Р			Μ						
Radiological											
Pathology											
Project Work		Μ				Μ				Μ	М

\* Add a table for each track (if any)

**5. Teaching and learning strategies to achieve program learning outcomes** Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes.

	Taa ahina aa d	Educational activities that contribute to achieving							
	Learning Strategies	learning	goutcomes						
Code	Learning Strategies	In class activities	Out of class activities						
К1	The teaching strategy is to introduce the students to the new topics, contents, related information and concepts (in class) using suitable teaching methods and techniques, followed by emphasizing learning via out of class complementary activities.	Lecture Discussion Demonstration Problem solving Tutorial Presentation Assessment for learning using quizzes and Pop up questions. Reflective dialogue and feedback on in class and out of class activities	Assignments to help describing, summarizing, and connecting related information e.g. Making lists, tables, mind maps, graphs, photographs etc. Library visits and google search for information and new ideas for presenting the information.						
K2	The teaching strategy is to introduce the students to the new topics, contents, related information and concepts (in class) using suitable teaching methods and techniques, followed by emphasizing learning via out of class complementary activities.	Lecture Discussion Demonstration Problem solving Tutorial Presentation Problem-based scenarios Assessment for learning using quizzes and Pop up questions. Reflective dialogue and feedback on in class and out of class activities	Assignments to help illustrating, demonstrating, pointing out and distinguishing the use and effect of different interventions e.g. giving scientific comment on an educational video clip, answering questions on presented case studies, inquiry based assignments, making mind maps, comparative tables, illustrationsetc.						
			Library visits and google search for the updates related to different topics, answering inquiries and finding new ideas for presenting the information						
S1	The teaching strategy is to explain and discuss criteria for designing and evaluating assessment and treatment plans (in class) using suitable teaching methods and techniques, followed by emphasizing learning via	Lecture Inquiry based instruction Group discussion Assignment- Debates Assessment for learning using quizzes and Pop up questions.	Assignments to help evaluating, judging, recommending and designing treatment plans e.g. identify problems and issues in a scenario presented in case study assignment, propose a treatment plan for a case or a condition, predict the						

	out of class complementary activities.	Reflective dialogue and feedback on in class and out of class activities	influence of certain intervention. Library visits and google search for the updates and pros/cons related to the assessment and treatment plans of different conditions, answering inquiries and finding new ideas for presenting the information
S2	The teaching strategy is to demonstrate and train the students on examination and assessment tools (in class) using suitable teaching methods and techniques, followed by emphasizing learning via out of class complementary activities.	Demonstration Small group laboratory training case study Role play Group discussion Assessment for learning using quizzes and Pop up questions. Reflective dialogue and feedback on both in class and out of class activities	Library visits and google search for the updates in techniques and assessment tools. Watching training clips on different interventions and applications.
S3	The teaching strategy is to demonstrate and train the students on performing diagnostic imaging techniques and advanced imaging procedures (in class) using suitable teaching methods and techniques, followed by emphasizing learning via out of class complementary activities.	Demonstration Small group laboratory training case study Problem-based scenarios Role play Group discussion Assessment for learning using quizzes and Pop up questions. Reflective dialogue and feedback on both in class and out of class activities	Library visits and google search for the updates in techniques and procedures. Watching training clips on different interventions and applications.
S4	The teaching strategy is to demonstrate and train the students on performing diagnostic imaging techniques and advanced imaging procedures (in class) using suitable teaching methods and techniques, followed by emphasizing	Demonstration Small group laboratory training case study Role play Group discussion Assessment for learning using quizzes and Pop up questions.	Library visits and google search for the updates in techniques and procedures. Watching training clips on different interventions and applications. Collects the medical reports in hospitals Reads journals

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	learning via out of class complementary activities.	Reflective dialogue and feedback on both in class and out of class activities	Design work plan for project research
C1	The teaching strategy is to train and continuously evaluate the application of rules and ethics of practicing and collaboration and respect for roles of different team/ group members (in class) using suitable teaching methods and techniques, followed by emphasizing learning and application via out of class complementary applied activities.	Group activities in lab. Assessment for learning using quizzes and Pop up questions. Reflective dialogue and feedback on both in class and out of class activities	Clinical training in a hospital (under supervision)
C2	The teaching strategy is to train and continuously evaluate the application of rules, ethics and professional obligations in managing plans of care (in class) using suitable teaching methods and techniques, followed by emphasizing learning and application via out of class complementary applied activities.	Role play Assessment for learning using quizzes and Pop up questions. Reflective dialogue and feedback on both in class and out of class activities	Clinical training in a hospital (under supervision)
C3	The teaching strategy is to train and continuously evaluate the use of different learning resources and sources for reliable information to enhance medical imaging related practices and skills (in class) using suitable teaching methods and techniques, followed by emphasizing learning and application via out of class complementary applied activities.	Inquiry based instruction Assessment for learning using Pop up questions. Reflective dialogue and feedback on both in class and out of class activities	Hospital clinical applied training (under supervision) Writing/ presenting reports, essays, reviews and/ or videos for improved applied radiology skills



	The teaching str	ategy is		Hospital clinical applied	
	to train and cont	nuously	Open discussion	training (under supervision)	
	evaluate written	and oral	Debates	XX7 '' 1' 1	
	communication s	Kills (in	Assessment for learning	writing medical reports.	
	class) using	suitable	Deflective dialogue and	Droposing activities formation	
	teaching methods and		feedback on both in class	awareness of groups or	
	emphasizing lear	ning via	and out of class activities	communities on common	
	out of	class	and out of class activities	conditions and radiology	
	complementary	applied		related issues.	
	activities.				
C5	The teaching str	ategy is	Open discussion	Hospital clinical applied	
	to train and cont	nuously	Debates	training (under supervision)	
	evaluate written	and oral	Assessment for learning		
	communication s	kills (in	using Pop up questions.	Writing medical reports.	
	class) using	suitable	Reflective dialogue and		
	teaching metho	ds and	feedback on both in class	Proposing activities for raising	
	techniques, follo	wed by	and out of class activities	awareness of groups or	
	emphasizing lear			conditions and radiology	
	complementary	applied		related issues	
	activities.	upplied			
				Active participation with the supervisor of the project work	
				supervisor of the project work	
6. Assess	sment Methods for pro	ogram lea	arning outcomes.		
Describe a	ssessment methods (Direct a comain of learning	and Indirect	t) that can be used to measure achieved	evement of program learning outcomes	
No					
110	Learning		Assessm	ent	
140	Learning Outcomes		Assessm Metho	lent ds	
110	Learning Outcomes Domains		Assessm Metho	ent ds	
	Learning Outcomes Domains		Assessm Metho direct	indirect	
1.0	Learning Outcomes Domains Knowledge:		Assessm Metho direct	ent ds indirect	
1.0	Learning Outcomes Domains Knowledge: Explain the concepts	Writ	Assessm Metho direct	indirect  Students exit survey	
1.0	Learning Outcomes Domains Knowledge: Explain the concepts of basic principles of	Writ   Oral	Assessm Metho direct ten exams examination	ent ds indirect • Students exit survey	
1.0 K 1	Learning Outcomes Domains Mowledge: Explain the concepts of basic principles of medical sciences,	<ul> <li>Writ</li> <li>Oral</li> <li>Quiz</li> </ul>	Assessm Metho direct ten exams examination zzes	ent ds indirect • Students exit survey	
1.0 K.1	Learning Outcomes Domains Knowledge: Explain the concepts of basic principles of medical sciences, physics and the	<ul> <li>Writ</li> <li>Oral</li> <li>Quiz</li> <li>Assi</li> </ul>	Assessm Metho direct ten exams examination zzes gnment	ent ds indirect • Students exit survey	
1.0 K.1	Learning Outcomes Domains Domains Knowledge: Explain the concepts of basic principles of medical sciences, physics and the associated	<ul> <li>Writ</li> <li>Oral</li> <li>Quiz</li> <li>Assi</li> <li>Prese</li> </ul>	Assessm Metho direct ten exams examination zzes gnment entations	ent ds indirect • Students exit survey	
1.0 K.1	Learning Outcomes Domains Knowledge: Explain the concepts of basic principles of medical sciences, physics and the associated applications.	<ul> <li>Writ</li> <li>Oral</li> <li>Quiz</li> <li>Assi</li> <li>Prese</li> </ul>	Assessm Metho direct ten exams examination zzes gnment entations	ent ds indirect • Students exit survey	
1.0 K.1	Learning Outcomes Domains Knowledge: Explain the concepts of basic principles of medical sciences, physics and the associated applications. Describe the matheda of different	<ul> <li>Writ</li> <li>Oral</li> <li>Quiz</li> <li>Assi</li> <li>Prese</li> <li>Writ</li> </ul>	Assessm Metho direct ten exams examination zzes gnment entations ten exams	ent ds indirect • Students exit survey • Students exit survey	
1.0 K.1	Learning Outcomes Domains Knowledge: Explain the concepts of basic principles of medical sciences, physics and the associated applications. Describe the methods of different medical imaging	<ul> <li>Writ</li> <li>Oral</li> <li>Quiz</li> <li>Assi</li> <li>Press</li> <li>Writ</li> <li>Oral</li> </ul>	Assessm Metho direct ten exams examination zzes gnment entations ten exams examination	ent ds indirect • Students exit survey • Students exit survey	
1.0 K.1 K.2	Learning Outcomes Domains Knowledge: Explain the concepts of basic principles of medical sciences, physics and the associated applications. Describe the methods of different medical imaging procedures	<ul> <li>Writ</li> <li>Oral</li> <li>Quiz</li> <li>Assi</li> <li>Prese</li> <li>Writ</li> <li>Oral</li> <li>Quiz</li> </ul>	Assessm Metho direct ten exams examination zzes gnment entations ten exams examination zzes	indirect     indirect     • Students exit survey     • Students exit survey	
1.0 K.1 K.2	Learning Outcomes Domains Knowledge: Explain the concepts of basic principles of medical sciences, physics and the associated applications. Describe the methods of different medical imaging procedures.	<ul> <li>Writ</li> <li>Oral</li> <li>Quiz</li> <li>Assi</li> <li>Prese</li> <li>Writ</li> <li>Oral</li> <li>Quiz</li> <li>Assi</li> <li>Quiz</li> <li>Assi</li> <li>Prese</li> </ul>	Assessm Metho direct ten exams examination ten exams entations ten exams examination ten exams examination ten exams	ent ds indirect • Students exit survey • Students exit survey	



2.0	Skills:			
S.1	Practice medical sciences applications and imaging procedures in medical laboratories.	<ul> <li>Practical exam</li> <li>Assignments</li> <li>Oral exams.</li> <li>Student presentation / seminar.</li> </ul>	•	Students exit survey
S.2	Operate effectively and safely the different medical imaging modalities with the optimal care and protection.	<ul> <li>Practical exam</li> <li>Assignments.</li> <li>Oral exams.</li> <li>Student presentation / seminar.</li> </ul>	•	Students exit survey
S.3	Evaluate the medical images of different modalities and differentiate between the normal and abnormal appearance	<ul> <li>Practical exam</li> <li>quizzes</li> <li>Assignments.</li> <li>Oral exams.</li> <li>Student presentation / seminar.</li> </ul>	•	Students exit survey
S. 4	Demonstrate basics management and research skills.	<ul> <li>Practical exam</li> <li>quizzes</li> <li>Assignments.</li> <li>Oral exams.</li> <li>Student presentation / seminar.</li> </ul>	•	In depth interviews/ Focus group discussion with health team members in hospitals (by the end of internship experience).
3.0	Competence:		<u> </u>	
C.1	Manage the operation of different medical imaging modalities effectively and accurately.	<ul> <li>Practical exam</li> <li>Assignments.</li> <li>Oral exams.</li> <li>Student presentation / seminar.</li> <li>Log book</li> </ul>	•	In depth interviews/ Focus group discussion with health team members in hospitals (by the end of internship experience).
C.2	Acquire an interpretable high quality image utilizing different imaging modalities.	<ul> <li>Practical exam</li> <li>Assignments.</li> <li>Oral exams.</li> <li>Student presentation / seminar.</li> <li>Log book</li> </ul>	•	In depth interviews/ Focus group discussion with health team members in hospitals (by the end of internship experience).
C.3	Carry out the optimal imaging examinations	<ul><li>Practical exam</li><li>Assignments.</li><li>Oral exams.</li></ul>	•	In depth interviews/ Focus group discussion with health



	dependant on the assessment of patient conditions and safety requirements with ethical and legal manners.	<ul> <li>Student presentation / seminar.</li> <li>Log book</li> </ul>	team members in hospitals (by the end of internship experience).
C4	Effectively communication with patient, colleagues and other health professionals.	<ul> <li>Practical exam</li> <li>Assignments.</li> <li>Oral exams. Student presentation / seminar.</li> </ul>	• In depth interviews/ Focus group discussion with health team members in hospitals (by the end of internship experience).
C5	Demonstrate teamwork and inter- professional collaboration	<ul> <li>Practical exam</li> <li>Assignments.</li> <li>Oral exams. Student presentation / seminar.</li> </ul>	• In depth interviews/ Focus group discussion with health team members in hospitals (by the end of internship experience).

### **D. Student Admission and Support:**

#### 1. Student Admission Requirements

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, students who are eligible for admission are those who have the Saudi Secondary School Certificate (science section) or its equivalent and passed Aptitude Exam provided by National Centre for Measurement and Evaluation in Higher Education (general capabilities + achievement for health and scientific specialties). The priority of acceptance for admission has been given to those applicants with the highest percentage (70% of the secondary school grade + 30% of aptitude exam grade). Applications are submitted electronically to the Deanship of Admission and Registration in the specified periods for each semester. Moreover, the applicants must fulfill the following admission requirements :

1- The applicant must be a Saudi citizen or from a Saudi mother.

2- The applicant must not have obtained the secondary school certificate for a period of more than five years ago.

3- The applicant must successfully pass any examination or personal interview determined by the university.

4- The applicant must be medically fit.

- 5- The applicant must be under the age of (30) years.
- 6- The applicant cannot have a Bachelor's degree from another university.

7- The applicant must fulfill any other requirements determined by the University Council and announced at the time of application.



8- The applicant must not be expelled from another university due to disciplinary or educational reasons.

2. Guidance and Orientation Programs for New Students

The program organizes a welcome and orientation day for the new admitted students to welcome them and discuss the principles of academic counseling and support. Moreover, in this day, the new students discuss their interests about the program and any problem that faced them. In addition, the academic advisor gives the student the printed program manual to be aware of the program facilities, laboratories and teaching staff.

#### **3. Student Counseling Services**

(academic, career, psychological and social)

- Academic guidance and supervision:

An academic advisor is assigned to provide guidance and supervision for the group of students at each level of the program.

Duties of the academic advisor are:

(a) Resource Agent—to provide accurate and timely information about the curriculum, cocurriculum, college policies, and administrative issues.

(b) Interpreter—to help students make sense of, and develop appreciation for the college/ program mission, curricular requirements (e.g., the meaning, value, and purpose of learning), and co-curricular experiences (e.g., the importance of out-of-class experiences for student learning and development).

(C) Liaison/Referral Agent—to connect students with key academic support and student development services.

(d) Teacher/Educator—to help students gain self-insight into their interests, aptitudes, and values; enables students to see the "connection" between their academic experience and their future life plans; and promotes students' skills in problem-solving, decision-making, and critical thinking with respect to present and future educational choices.

Office hours are declared by each course coordinator to provide academic support related to the course.

The program provides placement opportunity for the students by providing clinical and field training for some courses and an internship for a period of 6 months after successful completion of all the courses (the program organizes weekly visits for the interns in the hospitals for providing consultation and support).

The students can obtain psychological and social support via the central unit for psychological counselling at the university. The unit provides periodic counselling services for groups and individuals in different specialists (Educational, Personal, Psychological, Social, Career and Health), the unit handles all the information and data of the students with a great deal of confidentiality.

#### 4. Support for Special Need Students

(low achievers, disabled, gifted and talented)

The program has policies and regulations concerning support for low achievers, disabled, gifted and talented students.

**1- For low achievers' students**: The program prepares a list of low achievers' students and designs a plan for helping those students to achieve the intended learning outcomes of their courses. The



academic advisor member who is responsible for those students follow them strictly throughout the academic year to assure meeting of the recommended academic achievement.

**2- For disabled students**: The program does not accept students with special needs as the nature of the program depends on the physical ability of the student.

**3-** For gifted and talented students: The program encourages talented students by:

- Hanging their names on the Honorary board.

- Guiding and supporting talented students through the Gifted Club.

- Talented student are treated according to university regulation of award system.

http://www.nu.edu.sa/web/deanship-of-admission-and-registration

#### **E. Teaching and Administrative Staff**

#### **1.** Needed Teaching and Administrative Staff

Acadamia Dank	Specialty		Special	<b>Required Numbers</b>		
Academic Kank	General	Specific	Skills ( if any )	М	F	Т
Professors	Radiological and medical imaging	-General and special radiological procedures. - Nuclear medicine. -Ultrasound. -MRI. - CT. -Medical Physics.		4	4	8
Associate Professors	Radiological and medical imaging	<ul> <li>General and special radiological procedures.</li> <li>Nuclear medicine.</li> <li>Ultrasound.</li> <li>MRI.</li> <li>CT.</li> <li>Medical Physics.</li> </ul>		8	8	16
Assistant Professors	Radiological and medical imaging	<ul> <li>General and special radiological procedures.</li> <li>Nuclear medicine.</li> <li>Ultrasound.</li> <li>MRI.</li> <li>CT.</li> <li>Medical Physics.</li> </ul>		8	8	16



A codomio Doule	Specialty		Special	Required Numbers		
Academic Kank	General	Specific	Skills ( if any )	М	F	Т
Lecturers	Radiological and medical imaging	<ul> <li>General and special radiological procedures.</li> <li>Nuclear medicine.</li> <li>Ultrasound.</li> <li>MRI.</li> <li>CT.</li> <li>Medical Physics.</li> </ul>		8	8	16
Teaching Assistants	Radiological and medical imaging	<ul> <li>General and special radiological procedures.</li> <li>Nuclear medicine.</li> <li>Ultrasound.</li> <li>MRI.</li> <li>CT.</li> <li>Medical Physics.</li> </ul>		8	8	16
Technicians and Laboratory Assistants	Radiological and medical imaging	<ul> <li>General and special radiological procedures.</li> <li>Nuclear medicine.</li> <li>Ultrasound.</li> <li>MRI.</li> <li>CT.</li> <li>Medical Physics.</li> </ul>		5	5	10
Administrative and Supportive Staff	Secretary			8	8	16
Others (specify)	-	-	-	-	-	-

#### 2. Professional Development

#### 2.1 Orientation of New Teaching Staff

Describe briefly the process used for orientation of new, visiting and part-time teaching staff

#### **Orientation program for new teaching staff includes two main parts:** Part One:

Open lecture on the following topics:

- Development projects at Najran University.
- Knowledge and educational resources.
- Activities carried out by Najran University.
- Training and professional development of faculty member.
- Scientific research at Najran University.

- The rights and duties of the faculty member.
- E-learning and distance learning.

#### Part 2:

Specialized training courses and workshops aimed at developing teaching skills:

The university represents a total of 10 training hours for new teaching staff on the following topics:

- Preparation of course description and report (3 hours)
- Effective teaching skills (3 training hours)
- Student assessment skills (2 hours of training)
- Executive Mechanisms at College and University (2 Training Hours)

#### 2.2 Professional Development for Teaching Staff

Describe briefly the plan and arrangements for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development, etc.)

- The skills development committee assesses the annual training needs for the faculty members. The training plan includes workshops on the institutional, professional and personal needs. The needs are studied on the light of the training –impact assessment report of the previous year. Training plans are designed by the responsible committee to satisfy the faculty needs according to their priority and availability of resources.

Additional training workshops are annually offered to the faculty members by deanship of development and quality addressing the following areas:

- Updates in Quality assurance and academic accreditation standards.
- □ Saudi Qualification Framework
- □ Registration in the electronic platform (SAQF)
- □ Updates in Program Specifications.
- □ Updates in Course Specifications.
- □ Updates in Assessment of learning Outcomes
- $\Box$  KPIs and closing the quality loop.
- □ Updates in Annual program report.
- $\Box$  Updates in Courses report.
- □ The role of the leadership of scientific departments in achieving program accreditation
- □ Quality requirements for academic advising & guidance services
- $\Box$  Updates in Self-study report.

Faculty and teaching staff are also provided with the chance to attend conferences inside and outside the kingdom as regulated by the university, to facilitate that, a clear policy has been developed to guide the faculty to attend scientific conferences, seminars, workshops, and presentations to acquire a range of professional experiences and skills.



#### F. Learning Resources, Facilities, and Equipment

#### 1. Learning Resources.

Mechanism for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.)

Deanship of Libraries Affairs at Najran University is encouraging the faculty members in all departments/programs to prepare annual lists for required and recommended text books and other learning resources to be provided at the beginning of each academic year.

The program conducts annual surveys to monitor satisfaction of the students and teaching staff with the available learning resources and uses the results of those surveys and the comments mentioned by the teaching staff and students to improve the quality of learning resources.

#### 2. Facilities and Equipment

(Library, laboratories, medical facilities, classrooms, etc.).

Library:

There is a library for the college. It is easily accessible to the teaching faculty and the students. Library has seating arrangements for at least 60 students for reading and having good lighting , ventilation, computers, internet facility and space for stocking and displaying of books and references

The college library and the university central library are available and provided the students with a recent and modern radiological references and books. In addition, the University of Najran offers a service to researchers by participating in the Saudi Digital Library, which includes more than 680,000 e-books in various scientific disciplines and more than 300 international publishers. The library provides all Saudi universities with a single umbrella, through which they negotiate with publishers on various legal and financial issues. This is a great saving for money and efforts. The bloc encourages a single umbrella through which it can obtain more benefits and rights for publishers.

#### Male section:

	Lab.	Туре	The courses served by the lab.			
1	Ultrasound lab.	Educational-	<b>Ultrasound Physics &amp; Instrumentation</b>			
	Unit	Research	Ultrasound Investigation Techniques			
			Practical Training (4)			
2	General x-ray	Educational-	<b>Basics of General Radiographic</b>			
	lab, Unit &	Research	Investigations			
	demonstration		<b>Practical Training (1)</b>			
	room					
3	Nuclear	Educational	Nuclear Medicine Physics			
	medicine lab,		Nuclear Medicine Techniques			
	Unit		Practical Training (6)			
4	Fluoroscopic	Educational-	Fluoroscopic technique			
	lab Unit	Research				
5	CT Lab&	Educational-	Computerized Tomography Techniques			
	demonstration	Research	<b>Advanced Imaging Techniques</b>			
	room		Practical Training (5)			



6	MRI lab and	Educational-	Magnetic Resonance Imaging
	demonstration	Research	Techniques
	area		<b>Practical Training (7)</b>
7	General	Educational	Introduction to Physics
	physics lab,		Radiation Physics
	Unit		<b>Radiation Protection</b>
8	Radiation	Educational	Radiation protection
	physics lab,		_
	Unit		
9	Dark room	Educational	Techniques of Radiographic Image
	Unit		Recording -1
			Techniques of Radiographic Image
			Recording -2
10	Computer lab	Educational	Computer Applications in Health
			Sciences

#### **Female section:**

	Lab.	Туре	The courses served by the lab.			
1	Ultrasound lab.	Educational-	<b>Ultrasound Physics &amp; Instrumentation</b>			
	Unit	Research	Ultrasound Investigation Techniques			
			Practical Training (4)			
2	General x-ray	Educational-	<b>Basics of General Radiographic</b>			
	lab, Unit &	Research	Investigations			
	demonstration		Practical Training (1)			
	room					
3	Nuclear	Educational	Nuclear Medicine Physics			
	medicine lab,		Nuclear Medicine Techniques			
	Unit		Practical Training (6)			
4	General	Educational	Introduction to Physics			
	physics lab,		Radiation Physics			
	Unit		Radiation Protection			
5	CT Lab&	Educational-	Computerized Tomography Techniques			
	demonstration	Research	Advanced Imaging Techniques			
	room		Practical Training (5)			
6	Computer lab	Educational	<b>Computer Applications in Health</b>			
			Sciences			

All the labs are well designed and equipped with recent and well maintained educational tools and devices to cope with the educational purpose they serve. A full list is attached for more details about specifications and equipment of each lab.

Medical facilities: Central university clinic Radiology unit in hospital university

**3. Arrangements to Maintain a Healthy and Safe Environment** (According to the nature of the program )



The program complies with the arrangements, rules and regulations of the university regarding maintenance of healthy and safe environment for students, teaching and administrative staff while performing their activities and responsibilities inside the college.

The program provides specific direct instructions, brochures, manuals and training for the users of labs and different instruments and devices and monitor compliance to assure their safety.

The college is equipped with different safety measures and tools to manage risks and emergencies.

For the learning and training activities conducted outside the college the program applies strict criteria for choosing reputable hospitals which comply with the arrangements, rules and regulations of the ministry of health.

The program provides orientation for the students before field training to raise their awareness and assure their understanding of all safety and infection control measures, rules and regulations during their training.



#### G. Program Management and Regulations



- complains and suggestions committee
- disciplinary committee
- facilities and equipment committee
- academic accreditation committee
- supervising on laboratories committee
- PY courses committee
- Level 3 courses committee

#### **1.2 Stakeholders Involvement**

Describe the representation and involvement of stakeholders in the program planning and development. (students, professional bodies, scientific societies, alumni, employers, etc.)

We Maintain open, honest, and regular communication with the stakeholders by keeping them up to date with related issues.

Regular meetings are organized with the Advisory Committee for Health Colleges to discuss issues related to planning, evaluation and improvement processes of the program.

Students, alumni and employers are involved in annually evaluation of program through a survey covering all aspects of the program in addition to the evaluation of alumni quality by employers.

External evaluation for the program is conducted in a cycle of 5 years (The last evaluation was conducted in 2015 by AHPGS which granted the program a full accreditation).

Teaching and learning unit of the deanship of quality and development conducts review for the annual reports of the program to monitor quality.

#### 2. Program Regulations

Provide a list of related program regulations, including their link to online version: admission, study and exams, recruitment, appeals and complaint regulations, etc.)

Admission and registration: <u>https://dadr.nu.edu.sa/#</u> Study and exams <u>https://dadr.nu.edu.sa/en/#</u> Academic advising: <u>https://amsc.nu.edu.sa/122</u> Alumni unit <u>https://amsc.nu.edu.sa/478</u> Recruitment: Appeals complaint regulations

### https://amsc.nu.edu.sa/509

#### H. Program Quality Assurance

**1. Program Quality Assurance System** Provide online link to quality assurance manual https://amsc.nu.edu.sa/en/123

- Quality and Development Unit was established in Applied Medical Sciences College according to the administration decision of Vice-President for Development and Quality No. (4/1431) dated 23/07/2010.

- The Deanship of Development and Quality in Najran University provides all colleges with support necessary for quality management and is responsible for evaluating and monitoring the achievement of Plan and Activities of the quality Unit.

- The evaluation of achievement of the quality Plan is carried out on a regular basis (every three months and at the end of each academic year).

Annual program report including all data and information about the program quality and proposed improvement actions are discussed in a formal meeting of the department council and application of proposed corrective actions and improvement activities are monitored by the head of the department and the unit of teaching and learning.

A comprehensive evaluation for the program is conducted in 5 years cycle and a self-study report is compiled to apply for external review by national/international accreditation bodies. Improvement plan is designed to meet the recommendations and suggestions mentioned in the external review report.

#### 2. Program Quality Monitoring Procedures

Regarding the courses taught by other departments the program applies the following measures:

- The specifications are reviewed by the program committee to assure that the learning outcomes of the courses are aligned with the program learning outcomes according to the program matrix, and to make sure that the contents and topics mentioned in the specification, teaching strategies and assessment methods are aligned with the learning outcomes.
- Regular reviewing of course contents and specifications is conducted to assure coping with the improvements at the level of the program.
- Every course instructor submits a report at the end of each semester that discussed the quality of the course and achievement of its ILOs.
- Students' feedback is conducted and the report is attached with the submitted annual course report.
- Implementation of the activities mentioned in the improvement plan is monitored by the program coordinator.

**3.** Arrangements to Monitor Quality of Courses Taught by other Departments. NA

**4.** Arrangements Used to Ensure the Consistency between Main Campus and Branches (including male and female sections)

The program is offered only in main campus.

In both male and female sections, courses are delivered by using the same courses specification including the same teaching and assessment methods.

The mid and final exams have the same timetable.

Both male and female members are participating in electronic surveys on their satisfaction about the efficiency and adequacy of learning resources, facilities and equipment.

The program applies the following arrangements:

Promote communication between both of the sections (male & female).

Verify the fair distribution of resources between both of the sections.

Reaching an equal quality level of the outcomes.

Participation in the programmatic accreditation work between them.

Participation the faculty members of both section (male & female) in all committees and units. Participation the faculty members of both section (male & female) in the program and courses specification process and reports.

5. Arrangements to Apply the Institutional Regulations Governing the Educational and Research Partnerships (if any).

The program recently has not educational or research partnerships

6. Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes The program uses CLOs for direct assessment of PLOs, in addition to exit survey and interviews with the stakeholders as indirect methods for assessment. The results are used for continuous improvement during the assessment cycle of PLOS – which extends for a period of 3 years-while major changes at the level of the program are implemented by the end of the assessment cycle as illustrated by the following figure:



The following table provides more details about the assessment methods used for assessment of PLOs and uses of their results in improvement process:

PLOs		Assessment method	
Code	*Direct (using cour Formative (semester based)	se learning outcomes) Summative (cycle based)	Indirect (using surveys and interviews) Semester based
K1 K2 S1 S2 S3	Related learning outcomes of the courses contributing to the	Related learning butcomes of the courses contributing to the Advonced courses (level M)	
S3           S4           C1           C2           C3           C4           C5	achievement of this PLO (at level I and P) as mentioned in Program learning Outcomes Mapping Matrix.	contributing to the achievement of this PLO as mentioned in Program learning Outcomes Mapping Matrix.	Students exit survey. In depth interviews/ Focus group discussion with health team members in hospitals.
Uses of the results	<ul> <li>Corrective and improvement measures at the course level.</li> <li>Monitor progress in PLOs achievement and</li> </ul>	During the cycle: - Corrective and improvement measures at the course level. - Continuous corrective and improvement actions	<ul> <li>Accentuate the results of both formative and summative direct assessment.</li> <li>Highlight the</li> </ul>
	making		possible reasons



continuous	at the program level	for weak
corrective and	(minor).	achievement,
improvement		from the
actions at the	By the end of the cycle:	perspective of
program level	- Major corrective and	the stakeholders,
(minor) to assure	improvement actions	which help in
achievement of	at the program level.	setting priorities
PLOs by the end		and taking better
of the program.		informed
		corrective
- Monitor		actions and
individual student		improvement
achievement of		plans.
CLOs/PLOs to		
provide suitable		
academic support		
for the students at		
risk to improve		
and assure their		
achievement for		
PLOs by the end		
of the program.		

The assessment cycle of program learning outcomes extends for 3 academic years during which all the PLOs will be assessed and continuous improvement actions and minor changes are implemented while plans for implementing the required major changes "if any" will be designed by the end of the assessment cycle, the following table illustrates the timeline for collection of data and evaluation of the results and time for implementing the required improvement for each PLO:

	1st year of		2 <sup>nd</sup> year of		3 <sup>rd</sup> year of		
PI Os	assessment cycle		assessment cycle		assessment cycle		
I LOS	1 <sup>st</sup>	$2^{nd}$	$1^{st}$	$2^{nd}$	1 <sup>st</sup>	2 <sup>nd</sup>	
	semester	semester	semester	semester	semester	semester	
	Knowledge						
K1	C/E	Ι					
K2		C/E	Ι				
			Skills				
<b>S</b> 1		C/E	Ι				
S2			C/E	Ι			
S3				C/E	Ι		
S4					C/E	Ι	
		Co	ompetend	ces			
C1					C/E	Ι	
C2					C/E	Ι	
C3				C/E	Ι		
C4				C/E	Ι		
C5					C/E	Ι	

**Closing the loop:** 

Communicating the results of assessed PLOs to all the associated parties is assured by discussing the assessment reports at the level of the program council to define possible root causes for less than expected achievement and set the program.

- Communicating the results of assessed PLOs to all the associated parties is assured by discussing the assessment reports at the level of the program council to define possible root causes for less than expected achievement and set the program priorities for improvement and possible strategies and actions for improvement.

Implementation of the corrective actions and improvement plans and evaluation of their impact on subsequent achievement is keenly monitored by the program via course reports and program reports submitted by the end of each semester.

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time	
Mission and Goals	Program coordinator	Information and data analysis	End of academic year	
	Students	surveys		
Teaching and Learning	Deanship for admission and registration Vice-Rector For Academic Affair Alumni office Program coordinator	Information and data analysis	End of each semester.	
Students	Alumni office, Employers	Common	End of each semester.	
Students	Students at the last level of the program	Survey	By the end of each academic year	
Teaching staff	Program coordinator and related committees	Information and data analysis	By the end of each	
Learning Resources, Facilities, and Equipment	Teaching staff, students	Surveys	academic year	

#### 7. Program Evaluation Matrix

Evaluation Areas/Aspects (e.g., leadership, effectiveness of teaching & assessment, learning resources, partnerships, etc.)

**Evaluation Sources** (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others (specify)

Evaluation Methods (e.g., Surveys, interviews, visits, etc.)

Evaluation Time (e.g., beginning of semesters, end of academic year, etc.)

#### 8. Program KPIs\*

The period to achieve the target (5) year.

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1	KPI-P-01	Percentage of achieved indicators of the program operational plan objectives	80%	Statistical analysis of data	Annually
2	KPI-P-02	Students' Evaluation of quality of learning experience in the program	80%	Surveys of students quality learning experiences	By semester
3	KPI-P-03	Students' evaluation of the quality of the courses	80%	Surveys of students course quality	By semester
4	KPI-P-04	Completion rate	50%	Statistical analysis of data	By semester
5	KPI-P-05	First-year students retention rate	80%	Statistical analysis of data	By semester
6	KPI-P-06	Students' performance in the professional and/or national examinations	80%	Statistical analysis of Student performance data in professional	By semester
7	KPI-P-07	Graduates' employability and enrolment in postgraduate programs	≥ 60% ≥ 30%	Statistical analysis of graduates data base	By semester
8	KPI-P-08	Average number of students in the class	15	Statistical analysis of students data base	By semester
9	KPI-P-09	Employers' evaluation of the program graduates proficiency	80%	Surveysofemployersforefficiency graduates	By semester
10	KPI-P-10	Students' satisfaction with the offered services	80%	Surveys of students on provided services	Annually
11	KPI-P-11	Ratio of students to teaching staff	15:1	Statistical analysis of students and faculty data	Annually
12	KPI-P-12	Percentage of teaching staff distribution	50% PhD 25% MSc 25% BSc	Statistical analysis of faculty data base	Annually
13	KPI-P-13	Proportion of teaching staff leaving the program	<25%	Statistical analysis of faculty data base	Annually
14	KPI-P-14	Percentage of publications of faculty members	50%	Statistical analysis of scientific published data	Annually
15	KPI-P-15	Rate of published research per faculty member	1:3	Statistical analysis of scientific published data	Annually
16	KPI-P-16	Citations rate in refereed journals per faculty member	1:1	Statistical analysis of scientific published data	Annually
17	KPI-P-17	Satisfaction of beneficiaries with the learning resources	80%	Surveys of students and faculty to learning resources	Annually

\* including KPIs required by NCAAA



# I. Specification Approval Data

Council / Committee	DEPARTMENT COUNCIL	
Reference No.	THIRD SESSION 1440-1441 H	
Date	30-01-1441 Н	

