



**FACULTY OF HEALTH & MEDICAL SCIENCES  
INSTITUTE OF ALLIED HEALTH SCIENCES**

**CURRICULUM**

**BS DIAGNOSTIC RADIOLOGY & IMAGING  
TECHNOLOGY**

**JAN 2012 (Aug 2020 Revised)**



**AZAD JAMMU & KASHMIR UNIVERSITY,  
MUZAFFARABAD**

**Associate Dean  
Dr. Bashir ur Rehman**

## **DEAN'S WELCOME**

Dear student and prospective student,

I welcome you wholeheartedly to the faculty of health and Medical sciences at the University Of Azad Jammu & Kashmir.

The Diagnostic Radiology and Imaging Sciences (DRIS) Technologist is a highly qualified medical professional who is a specially trained healthcare professional that uses sophisticated technology and positioning techniques to produce medical images for the radiologist to interpret. Our four years Bachelor of Science program is tailored to equip you with knowledge, skills and attitudes that will make you a competent Radiologic Technologist. The modern practice of radiology involves several different healthcare professions working as a team e.g. radiologist, Radiographers and junior technicians. A variety of imaging techniques such as X-ray radiography, ultrasound, computed tomography (CT), nuclear medicine including positron emission tomography (PET), fluoroscopy, and magnetic resonance imaging (MRI) are used to diagnose or treat diseases. Interventional radiology (IR or sometimes VIR for vascular and interventional radiology) is a subspecialty of radiology in which minimally invasive procedures are performed using image guidance. Some of these procedures are done for purely diagnostic purposes (e.g., angiogram), while others are done for treatment purposes (e.g., angioplasty). The basic concept behind interventional radiology is to diagnose or treat pathologies, with the most minimally invasive technique possible.

After completing the course, you will be offered a professional Bachelor of Science degree. The degree is recognized nationwide and will qualify you to work as a Radiological technologist. We have designed the course in a way that offers you the most interactive informal and encouraging environment conducive to learning. You will be encouraged to think critically to seek knowledge yourself and to translate theory into practice. Our curriculum is based on the art and science of helping you learn. The principles of our educational philosophy are that you are self-directed learners have rich experiences and knowledge on which to draw, desire to learn to better handle real life situations, and see education as process that increases competence and leads to achievement of your full potential. Last but not least every facility that makes you enjoy learning shall be at your disposal.

I am confident that you will excel in this program and wish you all the best.

Dr. Bashir Ur Rehman

Associate Dean Faculty of Health & Medical Sciences.

## OBJECTIVES AND CURRICULUM

The goal of this four year bachelor of sciences degree program is to prepare Diagnostic radiology and Imaging sciences technologist who are highly competent in the knowledge skills and professional demeanor consistent with local employer expectations and professional standards. The specific objective of the program is to produce diagnostic radiology and Imaging sciences Technologists with the capabilities to:

- Provide information to diagnose patient illnesses by operating radiologic equipment to produce radiographs.
- Identify patient service requirements by establishing a personal understanding with potential and actual patients and other persons in a position to understand service requirements.
- exhibit professional behaviors and who understand the importance of professional development and growth
- Perform as entry level radiographers to meet the needs of the health care community.
- Consistently produce diagnostic quality radiographic images and will provide radiation safety for self and patients..
- Be able to critique appropriate 90 degree imaging and will properly critique an image for acceptable qualities.
- Apply knowledge of interpersonal communication when working with patients, patients significant others colleagues and other members of the healthcare team.

The curriculum is designed to prepare students to work anywhere in Pakistan and abroad as highly qualified diagnostic radiology and Imaging sciences Technologist. In the regard, the curriculum meets international standards and ensures that students master world class performance competencies. Subject are taught over eight semesters the duration of each semester is 20 weeks. A Maximum of 24 Credits can be obtained in a single semester. The Bachelor of Science in diagnostic radiology and Imaging sciences is awarded when the student accumulates a total of 124 credits.

In the fourth study year students are required to complete an eight weeks practicum in an accredited institution attend particular honors seminars undertake independent research and write an honors thesis in a major subject.

**Title of Degree:**                    **BS DIAGNOSTIC RADIOLOGY & IMAGING  
TECHNOLOGY**

**Minimum Duration:**            **08 semesters**  
**First four semesters on Campus**  
**Last four semesters in Teaching Hospitals**

**Total Duration:**                **08-12 semesters**

**Total Credit Hours:**        **124 credit hours**

#### **LIST OF AFFILIATED COLLEGES**

- HH SKBZ CMH MUZAFFARABAD
- ABBAS INSTITUTE OF MEDICAL SCIENCES (AIMS) HOSPITAL  
MUZAFFARABAD
- DIVISIONAL HEAD QUARTER HOSPITAL, MIRPUR
- RAWALPINDI INSTITUTE OF CARDIOLOGY, RAWALPINDI

## SCHEME OF STUDY

### BS DIAGNOSTIC RADIOLOGY & IMAGING TECHNOLOGY

#### 1<sup>st</sup> Semester

Code	Course Title	Credit Hour
BMT-3101	Anatomy– I	3 (2 + 1)
BMT-3102	Physiology – I	3 (2 + 1)
BMT-3103	Biochemistry – I	3 (2 + 1)
BMT-3104	Microbiology – I	3 (2 + 1)
BMT-3105	Pakistan Studies	3 (3 + 0)
BMT-3106	Introduction to Computer & IT	3 (3 + 0)
<b>Total Credit Hours</b>		<b>18</b>

#### 2<sup>nd</sup> Semester

Code	Course Title	Credit Hour
BMT-3201	Pathology	3 (3 + 0)
BMT-3202	Anatomy– II	3 (2 + 1)
BMT-3203	Physiology – II	3 (2 + 1)
BMT-3204	Biochemistry – II	3 (2 + 1)
BMT-3205	Microbiology – II	3 (2 + 1)
BMT-3206	Islamic Studies	3 (3 + 0)
<b>Total Credit Hours</b>		<b>18</b>

#### 3<sup>rd</sup> Semester

Code	Course Title	Credit Hour
BMT-4301	Pathology – II	3 (2 + 1)
BMT-4302	Pharmacology – I	3 (2 + 1)
BMT-4303	Emergency Medicine	3 (3 + 0)
BMT-4304	Critical Care – I	3 (2 + 1)
BMT-4305	Arabic	3 (3 + 0)
<b>Total Credit Hours</b>		<b>15</b>

#### 4<sup>th</sup> Semester

Code	Course Title	Credit Hour
BMT-4401	Pharmacology – II	3 (2 + 1)
BMT-4402	Critical Care – II	3 (2 + 1)
BMT-4403	Emergency Medicine-II	3 (3 + 0)
BMT-4404	Applied Physics and Engineering Sciences	3 (2 + 1)
BMT-4405	Epidemiology and Biostatistics	2 (2 + 0)
BMT-4406	English Communication Skill	2 (2 + 0)
<b>Total Credit Hours</b>		<b>16</b>

# BS DIAGNOSTIC RADIOLOGY & IMAGING TECHNOLOGY

## 5<sup>th</sup> Semester

Code	Course Title	Credit Hour
BMT-5541	The X-Ray production	4 (3 + 1)
BMT-5542	The Radiograph and image quality	4 (3 + 1)
BMT-5543	Radiographic positioning I	4 (3 + 1)
BMT-5544	Biomedical ethics	3 (2 + 1)
<b>Total Credit Hours</b>		<b>15</b>

## 6<sup>th</sup> Semester

Code	Course Title	Credit Hour
BMT-5641	Mammography	3 (2 + 1)
BMT-5642	Radiation Physics & Radiation Safety	3 (2 + 1)
BMT-5643	Radiographic positioning II	3 (2 + 1)
BMT-5644	Fluoroscopy procedure and Image Intensifier	3 (2 + 1)
BMT-5645	Ultrasonography	3 (2 + 1)
<b>Total Credit Hours</b>		<b>15</b>

## 7<sup>th</sup> Semester

Code	Course Title	Credit Hour
BMT-6741	Computerized Tomography	3 (2 + 1)
BMT-6742	Contrast media and pharmacological agents in diagnostic imaging	3 (2 + 1)
BMT-6743	Digital Radiography and Computed Radiography	3 (2 + 1)
BMT-6744	Diagnostic Procedures in Nuclear Medicine	3 (2 + 1)
BMT-6745	Image quality, artifacts and quality control of X-Rays	3 (2 + 1)
<b>Total Credit Hours</b>		<b>15</b>

## 8<sup>th</sup> Semester

Code	Course Title	Credit Hour
BMT-6841	Angiography	3 (2 + 1)
BMT-6842	PACS in Radiology	3 (2 + 1)
BMT-6843	Magnetic Resonance Imaging	3 (2 + 1)
BMT-6844	Research Project	3 (2 + 1)
BMT-6845	Research Methodology	4 (3 + 1)
<b>Total Credit Hours</b>		<b>16</b>