



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

CURRICULUM

**BS CARDIOVASCULAR 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 cardiovascular technologist is a highly qualified medical professional who is able to perform a wide range of therapeutic procedures for diagnosis and treatment of cardiovascular disorders. Demand for cardiovascular technologist is growing substantially due to the fact that the number of patient with cardiovascular problems is growing and those patients tend to live longer than before.

Our four-year bachelor of program is tailored to equip you with knowledge. Skills and attitudes that will make you competent cardiovascular technologist.

You will be trained to trace electrical impulses transmitted by the heart using the electrocardiography machine. This test is done routinely for wide spectrum of patients. You will also master other procedure such as holter monitoring and stress testing.

Further, you will learn how to use sophisticated ultrasound equipment to examine the heart structure and function and create images called echocardiograms. You will also master several techniques to assess flow of blood in arteries in veins by listening to and recording vascular information such as vascular blood flow, Blood pressure, Oxygen saturation, Cerebral circulation and peripheral circulation. To perform and interpret the results of these diagnostic procedures, you need strong knowledge base in anatomy, Physiology. Pathophysiology and pharmacology as they relate cardiovascular system. The first two semesters of the programme cover these subjects in detail. Additional modules are corporate to enable you to manage effectively threatening condition and critically ill patients.

After completing the course, you will be offered of bachelor of sciences degree that qualified you to work as cardiovascular technologist. it is designed in a way that offer you the most interactive, informal and encouraging environment conducive to learning, you will be encouraged to think critically. To seek knowledge yourself and translate theory in to practice.

Our curriculum is based on the art and sciences of helping you learn, the principles of over educational philosophy are that you are self-directed learners, have rich experience and knowledge on which to draw, desire to learn to better handle real life situations, and see education as a process that and 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 and Medical Sciences.

Objectives and curriculum

The four-year Bachelor of Science degree offers the students and opportunity to develop the technical ability, knowledge and skills required for entry level employment as a member of the cardiovascular team.

The specific objective of the program is to produce cardiovascular technologist with the capabilities to:

- Function effectively and efficiently and exhibit ethical behavior in an cardiovascular technologist role,
- Complete all work in accordance with legal and ethical requirements of field, using accepted safety practices, and appropriate terminology specific to the occupation and industry.
- Operate sophisticated medical equipment to assist physician in the diagnosis and treatment of cardiovascular disorders.
- Prepare accurate test reports such as electrocardiogram, holter scan and exercise test for the interpreting cardiologist.
- Critically evaluate the patient's cardiac status using the relevant test procedure and result.
- Apply scientific principles in the operation and evaluation of laboratory equipment and implanted cardiac rhythm management devices, and assist with obtaining measurements and monitoring of patient's hemodynamic parameters.
- Provide competent cardiovascular testing.
- Identify emergency equipment, cardiovascular drugs, their use and the role of each member of cardiac diagnostic team during a cardiac emergency.
- Provide quality patient care through all interactions and families, co-workers, and the community.
- The curriculum is designed to prepare students to work anywhere in Pakistan and abroad. In this regard, the curriculum meets international standards in certification and ensures that students master world-class performance competences. Subjects are taught over eight semesters, the duration of each semester is 20 weeks. A maximum of 18 credits can be obtained in a single semester. The bachelor degree is awarded when the students accumulate 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 CARDIOVASCULAR 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 Teaching/Training hospitals:

- **HH SKBZ CMH Muzaffarabad**
- **Abbas Institute of Medical sciences (AIMS) HOSPITAL Muzaffarabad**
- **Divisional Head Quarter Hospital Mirpur**
- **Rawalpindi Institute of Cardiology Rawalpindi**

SCHEME OF STUDIES BS CARDIOVASCULAR TECHNOLOGY

1st 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)
Total Credit Hours		18

2nd 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)
Total Credit Hours		18

3rd 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)
Total Credit Hours		15

4th 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)
Total Credit Hours		16

BS CARDIOVASCULAR TECHNOLOGY

5th Semester

Code	Course Title	Credit Hour
BMT-5531	Electro Cardiography – I	4 (3 + 1)
BMT-5532	Cardiac Sonography – I	4 (3 + 1)
BMT-5533	Vascular Sonography – I	4 (3 + 1)
MBT-5534	Clinical Practicum	3 (0 + 3)
Total Credit Hours		15

6th Semester

Code	Course Title	Credit Hour
BMT-5631	Electro Cardiography – II	4 (3 + 1)
BMT-5632	Cardiac Sonography – II	4 (3 + 1)
BMT-5633	Vascular Sonography – II	4 (3 + 1)
MBT-5634	Clinical Practicum	3 (0 + 3)
Total Credit Hours		15

7th Semester

Code	Course Title	Credit Hour
BMT-6731	Common Cardiac Diseases	4 (3 + 1)
BMT-6732	Common Cardiac Interventions	4 (3 + 1)
BMT-6733	Recent Advances in Cardiology-I	4 (3 + 1)
BMT-6734	Basic & Advance Cardiac Life Support	3 (2 + 1)
Total Credit Hours		15

8th Semester

Code	Course Title	Credit Hour
BMT-6831	Introduction to Biomedical Ethics	3 (2 + 1)
BMT-6832	Research Methodology	3 (0 + 3)
BMT-6833	Research Project (Thesis)	3 (0 + 3)
BMT-6834	Recent Advances in Cardiology-II	4 (3 + 1)
BMT-6835	Clinical Practicum	3 (3 + 0)
Total Credit Hours		16