Maulana Abul Kalam Azad University of Technology, WB
(Formerly known as West Bengal University of Technology)
Syllabus of B.Sc. in Medical Instrumentation & Critical Care Technology
Effective from academic session 2023-24

Graduate Attributes

By the end of the program the students will be able to:

- To help healthcare professionals comprehend issues related to providing critical care to patients requiring the same along with having a full proof knowledge on maintenance of various biomedical instruments required for conducting medical tests and other related ailments.
- The course also aims to comprehend Healthcare organizations.
- The students can work in conjunction with other healthcare organizations.
- Work in hospitals (both private and public sectors) as a healthcare professional.
- A BSc in Critical Care Technology can easily get placed in hospitals.
- He/she can work in hospitals in ICUs, emergency rooms, trauma centers, and similar healthcare settings requiring emergency and critical care.
- Hospitals working in both the private and public sectors will be in need of the services.
- After successful completion of a B.Sc. in Critical Care Technology, students are eligible to work in the Critical Care Unit, Cardiac Unit, Operation Theatre, etc in hospitals and other health care units.
- The students would be able to learn about setting up medical equipment, monitoring the equipment, recording the data, and providing the data to the physicians.
- students will have a basic understanding of the scientific principles on which medical instruments and devices are designed for healthcare applications.

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Curriculum Structure

Semester 1

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**DSC**	BMICCT 101 & 191	BASICS OF HUMAN ANATOMY	3	0	2	5
2.		BMICCT 102 & 192	BASICS OF HUMAN PHYSIOLOGY	3	0	2	5
3.	**DSE**	MIM101	PRINCIPLES OF MANAGEMENT	2	1	0	3
4.	**GE**		ANYONE FROM GE BASKET A/D	3	0	0	3
5.	**AECC**	AECC101	ENGLISH & PROFESSIONAL COMMUNICATION	2	0	0	2
6.	**SEC**	SEC181	LIFE SKILLS & PERSONALITY DEVELOPMENT	2	0	0	2
7.	**VAC**	VAC181A/B/C	YOGA/HEALTH & WELLNESS/SPORTS	2	0	0	2
Total Credit							22

Semester 2

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**DSC**	BMICCT 201	BASIC CRITICAL CARE MANAGEMENT [BASICS OF NURSING, ANAESTHESIA, SURGERY]	3	2	0	5
2.		BMICCT 202 & 292	FUNDAMENTALS OF BIOCHEMISTRY	3	0	2	5
3.	**DSE**	MIM201A/B	ORGANIZATION BEHAVIOUR /BUSINESS ETHICS & CORPORATE GOVERNANCE	2	1	0	3
4.	**GE**		ANYONE FROM GE BASKET B/E	3	0	0	3
5.	**AECC**	AECC201	Modern Indian Languages & Literature	2	0	0	2
6.	**SEC**	SEC281	IT Skills	2	0	0	2
7.	**VAC**	VAC281A/B/C/D	CRITICAL THINKING/NSS /MENTAL HEALTH/ENVIRONMENTAL STUDIES	2	0	0	2
Total Credit							22

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Semester 3

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	DSC	BMICCT 301 & 391	BASICS OF PATHOLOGY, MICROBIOLOGY, PHARMACOLOGY	3	-	2	5
2.		BMICCT 302	FUNDAMENTALS OF BIO-PHYSICS	3	2	0	5
3.	DSE	MIM301A	Principles of Marketing	3	1	0	4
4.	GE		GE- Anyone from the GE Basket	3	-	0	3
5.	AECC	AECC 301	The Constitution, Human Rights & Law	2		0	2
6.	SEC	SEC 381	Understanding basics of Cyber Security	2		0	2
Total Credit							21

Semester 4

Subject Type	Code	Subject Name	Credits			Total Credits
			L	T	P	
DSC	BMICCT 401	ICU THERAPY	3	1	0	4
	BMICCT 402	CSSD PROCEDURE	3	1	0	4
	BMICCT 403 & 493	LABORATORY SCIENCE [HAEMATOLOGY & PARASITOLOGY]	3	0	2	5
DSE	MIM401	Human Resource Management	4	-	0	4
	MIM402	E-Commerce	4	-	0	4
AECC	AECC 401	Society, Culture & Human Behaviour	2	-	0	2
Total Credit						**23**

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Semester 5

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	DSC	BMICCT 501	EQUIPMENT MAINTENANCE & TROUBLE SHOOTING	3	2	-	5
2.		BMICCT 502	LAW & MEDICAL ETHICS	3	2	-	5
3.	DSE	MIM501	Financial Management	4	-	0	4
		MIM502	Entrepreneurship	4	-	0	4
5.	SEC	SEC581	Internship	4	-	0	4
Total Credit							22

Semester 6

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	DSC	BMICCT 601	RESEARCH METHODOLOGY - I	3	1	0	4
2.		BMICCT 602	CELLULAR BIOPHYSICS	3	2	0	5
3.		BMICCT 603 & 693	BIOCHEMICAL TECHNIQUE	3	0	2	5
4.	DSE	MIM601	Customer relationship management	4	-	0	4
5.		MIM602	Career planning and management	4	-	0	4
Total Credit							22

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Semester 7 (With Honors)

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
2.	**DSC**	BMICCT 701	COMMUNITY HEALTH & EVS	3	2	0	5
3.		BMICCT 702	RESEARCH METHODOLOGY - II	4	1	0	5
4.	**DSE**	MIM701	Consumer Behavior	4	-	0	4
5.		MIM702	Strategic Management	4	-	0	4
6	**SEC**	SEC 781	Dissertation Work [Evaluation in Eight Semester]	-	-	-	0
7		SEC 782	Summer Internship (refer Appendix – 1A)	-	-	-	4
Total Credit							22

Semester 7(Honors with Research)

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
2.	**DSC**	BMICCT 701	COMMUNITY HEALTH & EVS	3	2	0	5
3.		BMICCT 702	ADVANCED RESEARCH METHODOLOGY	4	1	0	5
4.	**DSE**	MIM701	Consumer Behavior	4	-	0	4
5.		MIM702	Strategic Management	4	-	0	4
6	**SEC**	SEC 781	Research Internship Report and Viva (refer Appendix 1B)	-	-	-	4
Total Credit							22

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8th SEMESTER (With HONORS)

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	DSC	BMICCT 801	GYNAECOLOGY & OBSTETRICS	3	2	0	5
2.		BMICCT 802	CLINICAL MANIFESTATION OF PEDIATRICS	3	2	0	5
3.		BMICCT 803	OPTHALMOLOGY & ENT	3	1	0	4
3.	SEC	SEC881	Dissertation work (Started in seventh semester)	8	-	-	8
Total Credit							22

8th Semester (Honors with Research)

Sl.	Subject Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	DSC	BMICCT 801	GYNAECOLOGY & OBSTETRICS	3	1	0	4
2.		BMICCT 802	CLINICAL MANIFESTATION OF PEDIATRICS	3	1	0	4
3.		BMICCT 803	OPTHALMOLOGY & ENT	3	1	0	4
3.	SEC	SEC881	Dissertation (For Research Track – refer Appendix – 2)	-	-	-	10
Total Credit							22