Maulana Azad National Institute of Technology, Bhopal – 462003
Department of Bio Science and Engineering

M Tech in Bio Technology

SCHEME OF STUDY (wef July 2021)

First Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
BIO 511	Biostatistics & Bioinformatics	3	-	-	3
BIO 512	Instrumentation in Biotechnology	3	-	-	3
BIO 513	Genetic Engineering & Population Genetics	3	-	-	3
BIO 514	Cell & Tissue Culture Engineering	3	-	-	3
HUM 511	Communication skills	2	-	-	2
	Elective-1 (A)	3	-	-	3
	Elective-2 (A)	3	-	-	3
BIO 515	Lab-1	-	-	2	1
BIO 516	Seminar-1	-	-	2	1
Total Hours: 24 Total Credits: 22		Total Semester Credits			22

Second Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
BIO 521	Cheminformatics & Drug Designing	3		-	3
BIO 522	Molecular Biotyping	3		-	3
BIO 523	Bionanotechnology	3		-	3
	Elective-3 (A)	3		-	3
	Elective-4 (A)	3		-	3
	Elective-5 (C)	3		-	3
BIO 524	Research Methodology	1	1	-	2
BIO 525	Lab-2	-	-	2	1
BIO 526	Seminar-2	-	-	2	1
Total Hours: 24 Total Credits: 44		Total Semester Credits			22

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Third Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
BIO 611	Dissertation Phase - I	-	-	32	16
Total Hours: 32 Total Credits: 60		Total Semester Credits			16

Fourth Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
BIO 621	Dissertation Phase - II	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

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List of Program Electives A		List of Open Electives C	
BIO551	Bio Safety and Bio Security Regulations	ARP - 581	Introduction to Urban Planning
BIO552	Protein Engineering & Enzyme Technology	CHE – 581	Analytical Techniques
BIO553	Genomics & Transcriptomics	CHE – 582	Green Technology & Processes
BIO554	Computational Biology	CE – 581	Solid Waste Management
BIO555	Computational Phylogenetics	CE – 582	Basic Concept of GIS
BIO556	System Biology	CE – 583	Road Safety
BIO557	Molecular & Cellular Diagnosis	CSE – 581	Machine Learning
BIO558	Environmental Biotechnology	CSE – 582	Advanced Data Structures and Algorithms
BIO559	Molecular Biology	PHY – 581	Nanotechnology and Nanoscience
BIO560	Cell Biology	EE – 581	Electric Machines & Applications
BIO561	Microbiology & Immunology	EE – 582	Control and Instrumentation
BIO562	Bioenergy Engineering	ECE – 581	Introduction to Fuzzy Logic
BIO563	Computational Advancements in Biotechnology	ECE – 582	Neural Networks and its Applications
BIO564	Biodiversity and Bioprospecting	EC - 581	Energy Resource Technologies
BIO565	Biochemistry & Physiology	HUM – 581	Intellectual Property Rights for Engineers
		HUM – 582	Applied Psychology: Human Centered Design and Engineering
		MTH – 581	Advanced Operations Research
		MTH – 582	Computing Technologies
		ME – 581	Value Engineering
		ME – 582	Design Thinking
		ME - 583	Mechatronics and NDT in Engineering
		MME – 581	Advanced Instrumentation Methods for Material Analysis
		MME – 582	Smart Materials and their Application
		MBA-581	Engineering Startup Management