

PROGRAMME : MASTER OF SCIENCE (BIOTECHNOLOGY ENGINEERING) (MSBTE)
TYPE : FULL TIME & PART TIME

TYPE OF COURSES	CREDIT HOURS		
	PROGRAM STRUCTURE (MODE)		
	COURSEWORK ONLY (W)	COURSEWORK AND RESEARCH (C)	RESEARCH ONLY (T)
A. Core Course	18 Credits Hours	12 Credits Hours	0 credit
B. Elective and General Course by Specialization	9 Credits Hours	6 Credits Hours	N/A
C. University Required Course	3 Credits Hours	3 Credits Hours	0 Credit Hour
D. Research Courses	12 Credits Hours	21credit hours	42Credit hours
TOTAL	42 Credits Hours	42 credit hours	42 credit hours

A. CORE COURSES

Select 4 courses for Mixed Mode, Select 6 courses by Course Mode (Include BTEN 7951/7950)

No.	Course Code	Course Title	Credit Hours	Pre-Requisite
1.	BTEN 7950	Research Methodology and Seminar (For W & C)	3	
	BTEN 7951	Research Methodology and Seminar (For T)	0	
2.	BTEN 7203	Advanced Biochemical Process (C &W)	3	
3.	BTEN 7204	Advanced Bioseparation Processes (C&W)	3	
4.	BTEN 7309	Biofuel and Bioenergy (C&W)	3	
5.	BTEN 7105	Food Biotechnology (W)	3	
6.	BTEN 7305	Toxic and Hazardous Waste Management (W)	3	

B. ELECTIVE BY SPECIALIZATION -Select 2 courses for Mixed Mode, Select 3 courses by Course Mode

No.	Course Code	Course Title	Credit Hours	Pre-Requisite
Industrial Biotechnology Engineering				
1	BTEN 7101	Biocatalyst and Enzyme Technology	3	
2	BTEN 7102	Genome and Functional Genomics	3	
3	BTEN 7103	Protein Design and Engineering	3	
4	BTEN 7104	Animal Cell Culture Engineering	3	
5	BTEN 7105	Food Biotechnology	3	
6	BTEN 7106	Natural Products, Nutraceuticals and Functional Foods	3	
7	BTEN 7107	Food Quality Assessment and Control	3	
8	BTEN 7108	Biosensor	3	
9	BTEN 7109	Advanced Plant Cell Tissue Culture	3	

Bioprocess/ Biocatalyst Engineering				
1	BTEN 7201	Advanced Bioprocess Control	3	
2	BTEN 7202	Advanced Metabolic Engineering	3	
3	BTEN 7203	Advanced Biochemical Process	3	
4	BTEN 7204	Advanced Bioseparation Process	3	
Bioenvironmental Engineering				
1	BTEN 7301	Environmental Engineering Management	3	
2	BTEN 7302	Advanced Solid Waste Management	3	
3	BTEN 7303	Advanced Biological Waste Water Treatment Plant Design	3	
4	BTEN 7304	Advanced Air Pollution Control Technology	3	
5	BTEN 7305	Toxic and Hazardous Waste Management	3	
6	BTEN 7306	Waste water Reclamation and Reuse	3	
7	BTEN 7307	Advanced Water Treatment Process	3	
8	BTEN 7308	Biodegradation and Biotransformation	3	
9	BTEN 7309	Biofuel and Bioenergy	3	
1	BTEN 7401	Bioinformatics	3	
2	BTEN 7402	Modeling of Biological Systems	3	
3	BTEN 7403	Advanced Biological Reactor Design and Analysis	3	
4	BTEN 7404	Special Topics in Advanced Biotechnology Engineering	3	
5	BTEN 7405	Advanced Transport Phenomena	3	
6	BTEN 7406	System Biology	3	
7	BTEN 7407	Nanobiotechnology	3	

C. UNIVERSITI REQUIRED COURSE

No.	Course Code	Course Title	Credit Hours	Pre-requisite
1	RKGS 7000	Values, Technology and Society (For W & C)	3	
2	RKGS 7001	Values, Technology and Society(For T)	0	

D. RESEARCH COURSES

No.	Course Code	Course Title	Credit Hours	Pre-requisite
Coursework and Research (21 Credit Hours)				
1	BTE N 7994	Research Proposal	0	
2	BTEN 7998	Dissertation	21	BTEN 7994
Research only (42 credit hours)				
1	BTEN 7994	Research Proposal	0	
2	BTEN 7999	Thesis	42	BTEN 7995
3	BTEN 7995	Comprehensive Exam	0	BTEN 7994
Course Mode (12 Credit Hours)				
1	BTE 7997	Project Paper	12	

