

BTech Biological Engineering Curriculum

(from 2024 batch onward)

Semester 1

S.No	Course No	Course Name	L	T	E	P	O	C	Cat
1	BT1000	Introduction to Biological Sciences and Engineering	3	0	0	0	6	9	P
2	CY1001	Chemistry I	3	1	0	0	6	10	S
3	MA1101	Functions of Several Variables	3	1	0	0	6	10	S
4	PH1010	Physics 1	3	1	0	0	6	10	S
5	PH1030	Physics Lab	0	0	0	3	1	4	S
6	WS1010	Workshop I	0	0	0	3	0	3	E
7	GN1101	Life Skills	2	0	0	0	2	4	G
8	GN1xxx	Recreation	0	0	0	0	2	2	G
9	ID1200	Ecology and Environment	2	0	0	0	0	2	G
10		NCC (NC1010)/ NSS (NS1020)/ NSO (NS1030)	0	0	0	0	2	2	G
		Total Credits:						56	

Semester 2

S.No	Course No	Course Name	L	T	E	P	O	C	Cat
1	MAxxxx	Mathematics Elective (from MA basket)	3	0	0	0	6	9	S
2	PHxxxx	Physics Elective (from PH basket)	3	0	0	0	6	9	S
3	CY1051	Introduction to Spectroscopic Methods	3	0	0	0	6	9	S
4	BT1020	Material and Energy Balances	2	1	0	0	6	9	P
5	CY1002	Chemistry Lab	0	0	0	3	0	3	S
6	ME1120	Engineering Drawing	0	1	0	3	3	7	E
7	WS1020	Workshop II	0	0	0	3	0	3	E
8	GN1102	Life Skills	2	0	0	0	0	2	G
9	GN1xxx	Recreation	0	0	0	0	2	2	G
10		NCC (NC1010)/ NSS (NS1020)/ NSO (NS1030)	0	0	0	0	2	2	G
		Total Credits:						55	

Semester 3

S.No	Course No	Course Name	L	T	E	P	O	C	Cat
1	MAxxxx	Mathematics Elective (from MA basket)	3	0	0	0	6	9	S
2	HSE1	Humanities 1	3	0	0	0	6	9	H
3	AM1100	Engineering Mechanics	3	1	0	0	6	10	E

4	BT2011	Microbiology and Biochemistry	3	0	0	0	6	9	P
5	BT2020	Numerical Methods for Biology	2	1	0	0	6	9	P
6	MSE	Entrepreneurship	3	0	0	0	6	9	M
		Total Credits:						55	

Semester 4

S.No	Course No	Course Name	L	T	E	P	O	C	Cat
1	HSE2	Humanities 2	3	0	0	0	6	9	H
2	BT2041	Principles of Bioprocess Engineering	3	0	0	0	6	9	P
3	BT3011	Molecular Biology and Genetic Engineering	3	0	0	0	6	9	P
4	BT2080	Programming for Biology	2	0	0	3	6	11	C
5	EE1101	Signals and Systems	3	1	0	0	6	10	E
6	BT3111	Basic Biology Lab	0	0	0	6	2	8	P
		Total Credits:						56	

Semester 5

S.No	Course No	Course Name	L	T	E	P	O	C	Cat
1	BT5031	Thermodynamics in Biochemical Engineering	3	1	0	0	6	10	P
2	BT5061	Cellular Engineering	3	0	0	0	6	9	P
3	BT5051	Transport Phenomena in Biological Systems	3	1	0	0	6	10	P
4	BT3040	Bioinformatics	2	0	0	3	6	11	P
5	BT3041	Analysis and Interpretation of Biological Data	2	1	0	0	6	9	P
6	BT3121	Bioprocess Engineering Lab	0	0	0	6	2	8	P
		Total Credits:						57	

Semester 6

S.No	Course No	Course Name	L	T	E	P	O	C	Cat
		Professional Elective 1	3	0	0	0	6	9	P
		Professional Elective 2	3	0	0	0	6	9	P
		Unallocated credits						18	
		Total Credits:						36	

Semester 7

S.No	Course No	Course Name	L	T	E	P	O	C	Cat
1	HSE3	Humanities 3	3	0	0	0	6	9	H

2	BT5011	Biomaterials Engineering	3	0	0	0	6	9	P
		Professional Elective 3	3	0	0	0	6	9	P
		Professional Elective 4	3	0	0	0	6	9	P
3	BT4111	Cell, Tissue, and Biomaterials Engineering Lab	0	0	0	6	2	8	P
		Total Credits:						44	

Semester 8

S.No	Course No	Course Name	L	T	E	P	O	C	Cat
1	HS3050	Professional Ethics	2	0	0	0	0	2	G
		Unallocated credits						39	
		Total Credits:						41	

MA basket (for 2nd and 3rd semester MA courses):

- MA2101 Linear Algebra via Matrices
- MA2102 Differential Equations
Probability, Statistics and Stochastic
- MA2103 Process

PH basket (for 2nd semester MA courses):

- PH1xxx Electromagnetism
- PH1xxx Classical Mechanics