Bachelor of Technology in Biotechnology
School of Bio-Science and Technology

Programme Credit Structure	Credits
University Core Courses	**80**
Programme Core Courses	**40**
Programme Elective / Specialization Elective	**20**
University Elective	**20**
Total Graded Credit Requirement	**160**

Course Code	Course Title	T	P	C
University Core				**80**
MATXXXX	Mathematics-I	3	2	4
MATXXXX	Mathematics-II	3	2	4
PHYXXX	Physics for Biologists	3	2	4
CHYXXXX	Organic Chemistry for biotechnologists and Environmental Studies	3	2	4
CSE1012	Problem Solving using Python	3	2	4
CSE2005	Object Oriented Programming using JAVA	3	2	4
ECE1002	Fundamentals of Electrical and Electronics Engineering	3	2	4
BITXXX	Biology	4	0	4
BITXXX	Bio-Statistics	3	4	4
ENG1001/ ENG1002	English for Essential Communication/ English for Effective Communication	2	2	3
ENG1002/ ENG2001	English for Effective Communication /English for Professional Communication	2	2	3
FRLXXXX	Foreign Language	2	0	2
MGT1001	Ethics and Values	2	0	2
MGT1040	Entrepreneurship	3	2	4
XXXX	Indian Studies	2	0	2
STSXXXX	Qualitative and Quantitative Skills Practice I	3	0	1
STSXXXX	Qualitative and Quantitative Skills Practice II	3	0	1
BIC4002	Industrial Internship/ Senior Design Project	0	0	12
CAP4001	Capstone	0	0	6
SIT1001	Summer Internship	0	0	2
ECS2002	Engineering Clinics - System Design	0	4	2
ECS3001	Engineering Clinics - Real Time System	0	4	2
EXCXXXX	Extracurricular Activities			2
Programme Core				**40**
BITXXX	Biochemistry	3	2	4
BITXXX	Microbiology	3	2	4
BITXXX	Cell and Molecular Biology	3	2	4
BITXXX	Principles of Chemical Engineering	3	2	4
BITXXX	Fundamentals of Bioinformatics	3	2	4
BITXXX	Analytical Techniques in Biotechnology	3	2	4
BITXXX	Industrial Biotechnology	4	0	4
BITXXX	Immunology	3	2	4
BITXXX	Bioprocess Engineering	3	2	4
BITXXX	Genetic Engineering	3	2	4
Programme Electives (Specialization)				**20**
Microbial Technology				
BITXXX	Environmental Biotechnology	4	0	4
BITXXX	Industrial enzymology	4	0	4
BITXXX	Biochemical engineering	4	0	4
BITXXX	Downstream Processing	3	2	4
BITXXX	Protein Engineering and Design	4	0	4
Applied Bioinformatics				
BITXXX	Structural Bioinformatics	3	2	4
BITXXX	Computational Biology	3	2	4
BITXXX	Systems Biology	4	0	4
BITXXX	Biological Data Analytics	4	0	4
BITXXX	Artificial Intelligence and Machine learning in Biology	3	2	4
Bio-Pharmaceuticals				
BITXXX	Pharmaceutical Biotechnology	4	0	4
BITXXX	Medical Diagnostics	4	0	4
BITXXX	Pharmacoinformatics and Pharmacovigilance	3	2	4
BITXXX	Drug discovery and development	4	0	4
BITXXX	Toxicology	4	0	4
Plant and Animal Biotechnology				
BITXXX	Plant Biotechnology	4	0	4
BITXXX	Animal Biotechnology	4	0	4
BITXXX	Food Process engineering	4	0	4
BITXXX	Developmental Biology and Regenerative Medicine	4	0	4
BITXXX	Genomics and Proteomics	4	0	4
University Electives				**20**

Engineering |Sciences | Humanities | Social Sciences | Liberal arts | Economics | Finance | Management

Honours Degree (20 credits) - Students can opt for an Honours Degree" in the same discipline by earning 20 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Honours options.

Minors Degree (20 credits) - Students can opt for a "Minor Degree" in other disciplines 20 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Minor options.

Double Major Degree (40 credits) -Students can opt for a "Double Major" in other disciplines by earning 40 credits in addition to the minimum credit requirement of the Undergraduate Degree from the courses listed in the Second Major options.