

Course Architecture						
B.Tech. Biotechnology						
Semester I						
Course Code	Course Title	L	T	P	C	
MAT 011	Remedial Math-I	2	2	0	4	
BIO 001		3	0	3	4	
EL 111	Fundamentals of Electronics	3	1	0	4	
TA 111	Fundamentals of Computer Programming	2	0	4	4	
CHM 111	Science-I (Chemistry)	3	0	3	4	
TA 202	Engineering Graphics Workshop Practice	2	0	2	3	
TA 212		1	0	4	3	
TA 102	Communication Skills/HSSM-I	2	0	2	3	
		3	0	0	3	
NU 111	Community Connect	0	0	2	1	
	Total Semester L-T-P-C	19	3	20	22	
Semester II						
Course Code	Course Title	L	T	P	C	
MAT 012	Remedial Math-II	2	2	0	4	
CHM 201	Thermodynamics	3	0	0	3	
CS 102	Data Structures	3	0	3	4	
BIO 112	Microbiology	3	0	3	4	
TA 212	Workshop Practice Engg Graphics	1	0	4	3	
TA 202		2	0	2	3	
	HSSM-I/Communication Skills	2	0	2	3	
NU 112	Community Connect	0	0	2	1	
	Total Semester L-T-P-C	14 15	2	14 12	22	
Semester III						
Course Code	Course Title	L	T	P	C	
MAT 022	Remedial Math III	2	2	0	4	
BIO 201	Biological Chemistry	3	0	3	4	
BT 212	Analytical Techniques	3	0	2	4	
BIO 202	Molecular Biology	3	0	3	4	
PHY 101	Science II (Physics)	3	0	3	4	
	HSSM-II	3	0	0	3	
NU 211	Community Connect	0	0	2	1	

	Total Semester L-T-P-C	17	2	13	24
Semester IV					
Course Code	Course Title	L	T	P	C
BT 302	Computational Biology	3	0	3	4
BT 311	Genetic Engineering	3	0	3	4
BT 352	Biochemical and Bioprocess Engineering	3	0	3	4
BT 401	Environmental Biotechnology	3	0	3	4
CS 231	Database Management Systems	3	0	2	4
	HSSM-III	3	0	0	3
NU 212	Community Connect	0	0	2	1
	Total Semester L-T-P-C	18	0	16	24
Semester V					
Course Code	Course Title	L	T	P	C
BT 411	Food Biotechnology	3	0	3	3
BT 331	Plant & Animal Biotechnology	3	0	3	4
BT 321	Capstone Project -I	1	0	6	4
	Professional Elective – I	3	0	3	4
BT 312	Industrial Biotechnology	3	0	3	4
	HSSM-IV	3	0	0	3
NU 311	Community Connect	0	0	2	1
	Total Semester L-T-P-C	16	0	20	23
Semester VI					
Course Code	Course Title	L	T	P	C
BT 461	Immunology	3	0	3	4
	Open Elective – I	3	0	2	4
	Professional Elective – II	3	0	2	4
	Professional Elective – III	3	0	2	4
NU 302	R & D Project	1	0	6	4
	HSSM-V	3	0	0	3
NU 312	Community Connect	0	0	2	1
	Total Semester L-T-P-C	16	0	17	24
Semester VII					
Course Code	Course Title	L	T	P	C
	Professional Elective – IV	3	0	3	4
	Professional Elective – V	3	0	3	4

BIO 212	Biosafety & Ethics & IPR	3	0	0	3
	Open Elective – II	3	0	3	4
	Open Elective – III	3	0	3	4
BT 4121	Capstone Project - II	1	0	6	4
NU 411	Community Connect	0	0	2	1
	Total Semester L-T-P-C	16	0	20	24
Semester VIII					
Course Code	Course Title	L	T	P	C
NU 402	Industry Practice/Project	0	0	40	20
Total Credits					183

List of Professional Electives:

Course offered under various specializations (Specializations are metnioned in bold)
Computational Biology / Bioinformatics
Biological Sequence Analysis
Genomics and Proteomics
Algorithm for Bioinformatics
Data Mining for Bioinformatics
Molecular Modeling and Drug Designing
Medical Biotechnology
Cancer Biology
Virology
Biopharmaceuticals
Biomedical Engineering
Gene expression & regulation
Industrial Biotechnology
Microbial Metabolic Engineering
Protein Engineering
Synthetic Biology
Biosensors
Enzyme Technology
Environmental Biotechnology
Agricultural Microbiology
Industrial Waste Management
Solid Waste Management
Waste Water Management
Plant Biotechnology

Plant Physiology
Plant Tissue Culture
Plant Pathology
Food Biotechnology
Food Microbiology
Food Process Technology
Food Preservation Technology
Food Process Engineering
Food Analysis & Quality Control
Food Packaging Technology