

Integrated Master of Science in Biotechnology

Programme Credit Structure		Credits	XXXXXXXXX	3 0 0 3
			XXXXXXXXX Research Methodology	3 0 0 3
Foundation Core Courses		60	XXXXXXXXX Industry Standards and Guidelines	3 0 0 3
Discipline Core Courses		71	XXXXXXXXX Critical Thinking	2 0 0 2
Discipline Elective Courses		27	XXXXXXXXX Intra and Interpersonal Skills	2 0 0 2
Ability Enhancement Compulsory Courses		09	XXXXXXXXX Foreign Language	2 0 0 2
Skill Enhancement Courses		08		
Open Elective Courses		12	Discipline Core Courses	71
Project and Internship		23		
Total Graded Credit Requirement		210	XXXXXXXXX Genetics	3 0 0 3
Non-Graded Credit Requirement		12	XXXXXXXXX Microbiology	3 0 0 3
			XXXXXXXXX Microbiology Lab	0 0 4 2
Foundation Core Courses		60	XXXXXXXXX Genetic Engineering	3 0 0 3
		L T P C	XXXXXXXXX Genetic Engineering Lab	0 0 4 2
TCHY101L	Chemistry	3 0 0 3	XXXXXXXXX Food Nutrition and Health	3 0 0 3
TCHY101P	Chemistry Lab	0 0 2 1	XXXXXXXXX Fundamentals of Chemical Engineering	3 0 0 3
TPHY101L	Physics	3 0 0 3	XXXXXXXXX Immunology	3 0 0 3
TPHY101P	Physics Lab	0 0 2 1	XXXXXXXXX Immunology Lab	0 0 4 2
TMAT101L	Mathematics	3 1 0 4	XXXXXXXXX Human Anatomy and Physiology	3 0 0 3
TBIT101L	Biological Sciences	3 0 0 3	XXXXXXXXX Analytical Techniques	3 0 0 3
TBIT102L	Bioethics and Biosafety	2 0 0 2	XXXXXXXXX Analytical Techniques Lab	0 0 4 2
TCSE101L	Computer Programming: C	2 0 0 2	XXXXXXXXX Bioprocess Engineering	3 0 0 3
TCSE101P	Computer Programming: C Lab	0 0 2 1	XXXXXXXXX Bioprocess Engineering Lab	0 0 4 2
TBIT103L	Cell Biology	3 0 0 3	XXXXXXXXX Bioinformatics	3 0 0 3
TBIT104L	Molecular Biology	3 0 0 3	XXXXXXXXX Bioinformatics Lab	0 0 4 2
TBIT105P	Cell and Molecular Biology Lab	0 0 4 2	XXXXXXXXX Downstream Processing	3 0 0 3
TBIT106L	Biochemistry	3 0 0 3	XXXXXXXXX Downstream Processing Lab	0 0 4 2
TBIT106P	Biochemistry Lab	0 0 4 2	XXXXXXXXX Fundamentals of Biostatistics	3 0 0 3
TBIT107L	Industrial Unit Operations	3 0 0 3	XXXXXXXXX Systems Biology	3 1 0 4
TBIT107P	Industrial Unit Operations Lab	0 0 2 1	XXXXXXXXX Plant Biotechnology	3 0 0 3
XXXXXXXXX	Probability and Statistics	3 0 0 3	XXXXXXXXX Plant Biotechnology Lab	0 0 4 2
XXXXXXXXX	Probability and Statistics Lab	0 0 2 1	XXXXXXXXX Biodiversity and Conservation Biology	3 0 0 3
XXXXXXXXX	Computer Programming: Python	2 0 0 2	XXXXXXXXX Animal Biotechnology	3 0 0 3
XXXXXXXXX	Computer Programming: Python Lab	0 0 2 1	XXXXXXXXX Animal Biotechnology Lab	0 0 4 2
			XXXXXXXXX Biological Databases	3 0 0 3
			XXXXXXXXX Biological Databases Lab	0 0 4 2

Discipline Elective Courses	27	Skill Enhancement Elective Courses	8
XXXXXXXXX Developmental Biology	3 0 0 3	XXXXXXXXX Plant Tissue Culture	1 0 2 2
XXXXXXXXX Cancer Biology	3 0 0 3	XXXXXXXXX Animal Cell Culture	1 0 2 2
XXXXXXXXX Genomics	3 0 0 3	XXXXXXXXX Histopathology and Cytology	1 0 2 2
XXXXXXXXX Proteomics	3 0 0 3	XXXXXXXXX Cytogenetics and Karyotyping	1 0 2 2
XXXXXXXXX Food Biotechnology	3 0 0 3	XXXXXXXXX Animal Breeding and Handling	1 0 2 2
XXXXXXXXX Industrial Biotechnology	3 0 0 3	XXXXXXXXX Gene Editing	1 0 2 2
XXXXXXXXX Environmental Biotechnology	3 0 0 3	XXXXXXXXX Computer Programming: Java	3 0 2 4
XXXXXXXXX Pharmaceutical Biotechnology	3 0 0 3		
XXXXXXXXX Medical Biotechnology	3 0 0 3	Open Elective Courses	12
XXXXXXXXX Aquatic Biotechnology	3 0 0 3	XXXXXXXXX Principles of Management	3 0 0 3
XXXXXXXXX Nanobiotechnology	3 0 0 3	XXXXXXXXX Marketing Management	3 0 0 3
XXXXXXXXX Molecular Endocrinology	3 0 0 3	XXXXXXXXX Human Resource Management	3 0 0 3
XXXXXXXXX Gene Therapy	3 0 0 3	XXXXXXXXX Total Quality Management	3 0 0 3
XXXXXXXXX Vaccinology	3 0 0 3	XXXXXXXXX Supply Chain Management	3 0 0 3
XXXXXXXXX Molecular Modelling and Drug Design	3 0 0 3	XXXXXXXXX Consumer Behaviour	3 0 0 3
XXXXXXXXX Stem Cell Technology	3 0 0 3	XXXXXXXXX International Business	3 0 0 3
XXXXXXXXX Neurobiology	3 0 0 3	XXXXXXXXX Design Thinking for Innovation	3 0 0 3
XXXXXXXXX Epidemiology and Public Health	3 0 0 3	XXXXXXXXX Entrepreneurship	3 0 0 3
XXXXXXXXX Forensic Science	3 0 0 3	XXXXXXXXX Finance and Accounting	3 0 0 3
XXXXXXXXX Technical Answers to Real Problems Project	3		
XXXXXXXXX Laboratory Project	3	Project and Internship	23
XXXXXXXXX Design Project	3	XXXXXXXXX Summer Industrial Internship (28 Days) Project	2 3
XXXXXXXXX Special Project	3	XXXXXXXXX Research Project I	6
XXXXXXXXX Study Project	3	XXXXXXXXX Research Project II / Internship	12
XXXXXXXXX Computer Project	3		
		Non-Graded Credit Requirement	12
Ability Enhancement Compulsory Courses	9	TSSC101N Introduction to Science	2
TENG101L Effective English Communication	2 0 0 2	TSSC102N Essence of Traditional Knowledge	2
TENG102L Technical English Communication	2 0 0 2	TSSC103N Indian Constitution	2
TENG102P Technical English Communication Lab	0 0 2 1	TEXC101N Co-curricular Activities	2
TENG103P Technical Report Writing	0 0 2 1	TEXC102N Extracurricular Activities	2
TCHY140L Environmental Studies	3 0 0 3	TEXC103N NSS/NCC	2