



FACULTY OF
SCIENCE AND
HEALTH SCIENCE



2024 - 25

B.Sc Integrated M.Sc Biotechnology

Programme Structure

Division	Faculty of Science and Health Science
School Name	School of Science and Environmental Studies
Department Name	School of Biosciences and Technology
Programme Name	B.Sc Integrated M.Sc Biotechnology

Credit Distribution

Course Type	Description
Programme Core	Courses dealing with foundations, depth and breadth of the major in which a student is admitted at MIT-WPU
Programme Electives	Open electives under the Programme allow students to specialise in a particular area connected to their major.
University Core	Courses that reflect the core MITWPU values and the mission of Life Transformation of students.
University Electives	Multidisciplinary courses across the faculties at MIT-WPU and outside the Programme core.

Semester	Course Type	Course Name / Course Title	Total Credits
I	University Core	Effective Communication	1
I	University Core	Critical Thinking	1
I	University Core	Environment and Sustainability	1
I	University Core	Foundations of Peace	2
I	University Core	Yoga - I	1
I	University Core	SLDP	1
I	Programme Foundation	Biochemistry and Metabolism	3
I	Programme Foundation	Fundamentals of Cell & Molecular Biology	3
I	Programme Foundation	Biostatistics	3
I	Programme Foundation	Microbiology	3
I	Programme Foundation	Integrated Laboratory - 01	2

Semester	Course Type	Course Name / Course Title	Total Credits
II	University Core	Advanced Excel	1
II	University Core	Financial Literacy	1
II	University Core	Yoga - II	1
II	University Core	Co-creation	1
II	University Core	Indian Constitution	1
II	University Core	IKS (General)	2
II	University Core	Sports	1
II	Programme Foundation	Genetics	2
II	Programme Foundation	Bioinformatics	3
II	Programme Foundation	Recombinant DNA Technology	2
II	Programme Foundation	Immunology	2
II	Programme Foundation	Bioanalytical Techniques	3
II	Programme Foundation	Integrated Laboratory – 02	2

III	University Core	Research Innovation Design Entrepreneurship (RIDE)	1
III	University Core	Spiritual & Cultural Heritage; Indian Experience	2
III	University Electives	UE - I	3
III	University Electives	UE-II	3
III	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Project Based Learning - I	1
III	Programme Electives	Programme Elective	4
III	Programme Foundation	Computational Biology	2
III	Programme Foundation	Plant and Animal Biotechnology	2
III	Programme Major	Bioprocess Technology	2
III	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Integrated Laboratory - 03	2

Semester	Course Type	Course Name / Course Title	Total Credits
IV	University Electives	UE-III	3
IV	University Core	Rural Immersion	1
IV	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Project Based Learning - II	1
IV	University Core	Life Transformation Skills	1
IV	Programme Foundation	(IKS) Indian Health Sciences	2
IV	Programme Major	Fundamentals of Metabolic Engineering	3
IV	Programme Major	Genomics and Proteomics	3
IV	Programme Major	Environmental Biotechnology	3
IV	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Integrated Laboratory - 04	2
IV	Programme Major	Genomic Data Science	3

V	University Core	Managing Conflicts Peacefully: Tools and Techniques	2
V	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Project Based Learning - III	1
V	Programme Major	Introduction to Stem cell Biology	3
V	Programme Major	Food Chemistry and Microbiology	3
V	Programme Major	Pharmaceutical Technology	3
V	Programme Major	Introduction to Biosensors and Bioelectronics	3
V	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Research Methodology	3
V	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Integrated Laboratory-05	2

Semester	Course Type	Course Name / Course Title	Total Credits
VI	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Project Based Learning - IV	1
VI	University Core	National Academic Immersion	2
VI	Programme Electives	Programme Elective	4
VI	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Research Project	10
VI	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Bioethics, Biosafety and IPR	2
VI	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Biologue: A Scientific Discourse	1

VII	Programme Electives	Programme Elective	4
VII	Programme Major	Principles of Regeneration and Developmental Biology	3
VII	Programme Major	ECM, Cell Signalling and Communications	3
VII	Programme Major	Systems Biology	2
VII	Programme Major	Tissue Engineering and Translational Medicine	3
VII	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Tissue Engineering and Stem Cell Technology Lab 01	3

Semester	Course Type	Course Name / Course Title	Total Credits
VIII	Programme Electives	Programme Elective	4
VIII	Programme Major	Stem Cells and Translational Medicine	3
VIII	Programme Major	Translation of Nano bio-technology in Medicine	3
VIII	Programme Major	Biomaterials and Mechanobiology	3
VIII	Programme Major	Regulatory Affairs in Tissue Engineering and Stem Cell Technology	2
VIII	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Tissue Engineering and Stem Cell Technology Lab 02	3

*Modifications to the programmes and courses are contingent upon adherence to university guidelines and procedures. Any proposed changes must undergo a thorough review process, including consultation with relevant academic departments, approval from the appropriate administrative bodies, and compliance with accreditation standards.

Additionally, consideration will be given to feedback from students, faculty, and other stakeholders to ensure that modifications align with the overall educational objectives and mission of the university. The implementation of any approved changes will be communicated transparently to the university community, and appropriate measures will be taken to facilitate a smooth transition for all affected parties.