MIT-WPU
॥ विश्वशान्तिर्ध्रुवं ध्रुवा ॥

FACULTY OF SCIENCE AND HEALTH SCIENCE

M.Sc. Genomics and Precision Medicine

Programme Structure

mitwpu.edu.in

Division	Faculty of Science and Health Science
School Name	School of Science and Environmental Studies
Department Name	Department of Biosciences and Technology
Programme Name	M.Sc. Genomics and Precision Medicine

Semester	Odd(I)	Even(II)	Total Credits
First Year	22	22	**44**
Second Year	22	22	**44**

COURSE BASKET

Course Type	Description
Programme Core (PC)	Includes Programme Foundation (PF), Programme Major (PM), and Capstone Project Internship / On-Job-Training (OJT) (PR).
Programme Electives (PE)	Open electives under the programme allow students to specialise in a particular area connected to their major.
University Core (UC)	Courses that reflect the core MIT-WPU values like Peace and Yoga and the mission of Life Transformation of students.

SEMESTER – I

Semester	Course Type	Course Name / Course Title	Total Credits
I	PC	Algorithms in Bioinformatics	4
I	PC	Biostatistics and Data Analysis	3
I	PC	Clinical Epidemiology	3
I	PC	Human Genetics	3
I	PC	Research Methodology and Scientific Communication	4
I	PC	GPM Laboratory-I (DNA/RNA isolation, PCR, qPCR, primer design etc)	2
I	UC	Scientific Studies of Mind, Matter, Spirit, and Consciousness	2
I	UC	Yoga	1
		Total Credits:	**22**

SEMESTER – II

Semester	Course Type	Course Name / Course Title	Total Credits
II	PC	Advances in Disease Diagnosis and Treatment	4
II	PC	Bioinformatics and Computational Biology	3
II	PC	Biomedical Instrumentation	3
II	PC	Genomics in Clinical Practice	4
II	PC	GPM Laboratory-II (library preparation, Illumina/ Nanopore sequencing, variant calling, assembly)	2
II	PE (Programme Elective - I)	AI & Machine Learning for Genomics and Healthcare	4
		Pathogen Genomics	
II	UC	Peace Building: Global Initiatives	2
		Total Credits:	**22**

SEMESTER – III

Semester	Course Type	Course Name / Course Title	Total Credits
III	PC	Chronic Disease Genomics	3
III	PC	Pharmacogenomics and Computational Drug Discovery	2
III	PC	Precision Medicine & Personalized Therapeutics	3
III	PC	On-Job-Training (OJT)/Internship	4
III	PC	Research Project	6
III	PE (Programme Elective - II)	Counselling for Health Professionals	4
		Clinical & Public Health Microbiology	
		Total Credits:	**22**

SEMESTER – IV

Semester	Course Type	Course Name / Course Title	Total Credits
IV	PC	Bioethics, Biosafety and Regulatory Affairs	3
IV	PC	Clinomics & Systems Biology	3
IV	PC	Project / Industrial Internship	12
IV	PE (Programme Elective - III)	Bioentrepreneurship in Clinical Environment	4
		Ethics and Evidence in Genomics	
		Total Credits:	**22**

*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.