



FACULTY OF
SCIENCE AND
HEALTH SCIENCE



2024 - 25

M.Sc. Physics

Programme Structure

Division	Faculty of Sciences and Health Science
School Name	School of Sciences and Environmental Studies
Department Name	Department of Biosciences and Technology
Programme Name	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 1

Sr. No.	Course Type	Course Name / Course Title	Total Credits
1	PF	Classical Mechanics	4
2	PF	Mathematical Methods in Physics	4
3	PE	Programme Elective-01	4
4	PF	General Physics Lab	2
5	PM	Research Methodology	4
6	UC	Scientific Studies of Mind, Matter, Spirit and Consciousness	2
7	UC	Yoga	1

Elective Tracks

Track	I	II	III	IV
Elective Basket	Photonics	Astrophysics	Computational Physics	Devices and Design
Name of the course	Optics	Introduction to Astrophysics and Astronomy	Introduction to Computational Physics	Fundamentals of semiconductor devices
Course Code	PHY7PE11A	PHY7PE21A	PHY7PE31A	PHY7PE41A

Semester 2

Sr. No.	Course Type	Course Name / Course Title	Total Credits
1	PF	Electrodynamics	4
2	PF	Quantum Mechanics	4
3	PM	Atomic and Molecular Physics	3
4	PM	Nuclear and particle Physics	3
5	PE	Programme Elective-02	4
6	PM	Advanced Physics Lab	2
7	UC	Peacebuilding: Global Initiatives	2

Elective Tracks

Track	I	II	III	IV
Elective Basket	Photonics	Astrophysics	Computational Physics	Devices and Design
Name of the course	Optoelectronics	Observational Astronomy and Techniques	Computational Modelling in Physics	Device fabrication, characterization, and simulation
Course Code	PHY7PE12A	PHY7PE22A	PHY7PE32A	PHY7PE42A

Semester 3

Sr. No.	Course Type	Course Name / Course Title	Total Credits
1	PM	Condensed Matter Physics	3
2	PM	Statistical Mechanics	4
3	PE	Programme Elective-03	4
4	PM	Elective Lab	2
5	PR	Project	5
6	PR	On Job Training (OJT)/Internship	4

Elective Tracks

Track	I	II	III	IV
Elective Basket	Photonics	Astrophysics	Computational Physics	Devices and Design
Name of the course	Laser Physics	General Theory of relativity and Cosmology	AI & ML in Physics	Device and design I
Course Code	PHY8PE11A	PHY8PE21A	PHY8PE31A	PHY8PE41A

Semester 4

Sr. No.	Course Type	Course Name / Course Title	Total Credits
1	PM	Electronics	3
2	PM	Fibre Optics	3
3	PE	Programme Elective-04	4
4	PR	Project / Industrial Internship	10

Elective Tracks | Semester 4

Track	I	II	III	IV
Elective Basket	Photonics	Astrophysics	Computational Physics	Devices and Design
Name of the course	Bio photonics and Holography	Stellar and Galactic Physics	Quantum information and Computing	Device and design II
Course Code	PHY8PE12A	PHY8PE22A	PHY8PE32A	PHY8PE42A

*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.