MIT-WPU
॥ विश्वशान्तिर्ध्रुवं ध्रुवा ॥

FACULTY OF ENGINEERING AND TECHNOLOGY

B.Sc. Data Science & Big Data Analytics

Programme Structure

mitwpu.edu.in

Division	Faculty of Engineering and Technology
School Name	School of Computer Science & Engineering
Department Name	Department of Computer Science and Applications
Programme Name	B.Sc. Data Science & Big Data Analytics

Semester	Odd (I)	Even (II)	Total Credits
First Year	20	20	40
Second Year	22	22	44
Third Year	22	22	44
Fourth Year	18	19	37

COURSE BASKET

Course Type	Description
Programme Core	Courses dealing with foundations, depth and breadth of the major in which 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 MIT-WPU values and the mission of Life Transformation of students
University Electives	Multidisciplinary courses across the faculties at MIT-WPU and out-side the programme core.

Semester I

Semester	Course Type	Course Name / Course Title	Total Credits
I	UC	Indian Constitution	1
I	UC	Environment and Sustainability	1
I	UC	Yoga - I	1
I	UC	Social Leadership Development Program	1
I	UC	Financial Literacy	1
I	PF	Computer Organization	3
I	PF	Database Management system	4
I	PF	C Programming	5
I	PF	Introduction to Data Science	3
		Total Credits:	**20**

Semester II

Semester	Course Type	Course Name / Course Title	Total Credits
II	UC	Yoga - II	1
II	UC	Co-creation	1
II	UC	AI for everyone	2
II	UC	Foundation of Peace	2
II	UC	Indian Knowledge System (General)	2
II	UC	Sports	1
II	PF	Discrete Mathematics	3
II	PF	Data Structure using C	4
II	PF	Introduction to Statistical Analysis using Excel	4
		Total Credits:	**20**

Semester - III

Semester	Course Type	Course Name / Course Title	Total Credits
III	UC	Spiritual and Cultural heritage: Indian Experience	2
III	UC	Research Innovation Design Entrepreneurship (RIDE)	1
III	UE	University Electives - I	3
III	PF	Advanced Statistics	3
III	PF	Python Programming	4
III	PM	Data Mining and Data Warehousing	4
III	PF	Business Analytics	3
III	PM	Data Visualization	2
		Total Credits:	**22**

SEMESTER - IV

Semester	Course Type	Course Name / Course Title	Total Credits
IV	UC	Rural Immersion	1
IV	UC	Life Transformation Skills	1
IV	UE	University Electives - II	3
IV	PM	R-Programming	4
IV	PF	Statistical Inference and Multivariate Analysis	3
IV	PF	Indian Knowledge System (Sci.& Tech)	2
IV	PM	Object Oriented programming using Core Java	4
IV	PM	Introduction to Machine Learning	4
		Total Credits:	**22**

Semester - V

Semester	Course Type	Course Name / Course Title	Total Credits
V	UC	Managing Conflicts Peacefully: Tools and Techniques	2
V	UE	University Electives - III	3
V	PE	Program Elective - I	4
V	PM	Advanced Machine Learning	5
V	PM	Advanced SQL	4
V	Program Capstone Project/Seminar and Internships	Mini Project-I	3
V	Program Capstone Project/Seminar and Internships	Cognitive Skills	1
		Total Credits:	**22**

Semester - VI

Semester	Course Type	Course Name / Course Title	Total Credits
VI	UC	National Academic Immersion Program	2
VI	PE	Program Elective - II	4
VI	PM	Data Engineering	3
VI	PM	Big Data Analytics	4
VI	PM	Financial Analytics	4
VI	Program Capstone Project/Seminar and Internships	Mini Project-II	5
		Total Credits:	**22**

Semester - VII

Semester	Course Type	Course Name / Course Title	Total Credits
VII	PE	Program Elective - III	4
VII	PM	Generative AI	3
VII	PM	Deep Learning	4
VII	PM	Research Methodology	3
VII	Program Capstone Project/Seminar and Internships	Research Paper Writing	4
		Total Credits:	**18**

Semester - VIII

Semester	Course Type	Course Name / Course Title	Total Credits
VIII	PE	Program Elective - IV	4
VIII	Program Capstone Project/ Seminar and Internships	Internship	15
		Total Credits:	**19**

Program Elective Tracks

Semester	Course Type	Course Name / Course Title	Total Credits
V	Program Elective - I	Big Data Technologies	4
V	Program Elective - I	Cloud Computing for Big Data	4
V	Program Elective - I	Optimization Techniques for Data Science	4
VI	Program Elective - II	Natural Language Processing	4
VI	Program Elective - II	IoT and Sensor Data Analytics	4
VI	Program Elective - II	Time Series Analysis	4
VII	Program Elective - III	Data Security and Privacy	4
VII	Program Elective - III	Bioinformatics and Data Science	4
VII	Program Elective - III	Data Ethics and Governance	4
VIII	Program Elective - IV	Blockchain for Data Management	4
VIII	Program Elective - IV	Explainable AI	4
VIII	Program Elective - IV	MLOps (Machine Learning Operations)	4

*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.