



Since 1983

Dr. Vishwanath Karad

**MIT WORLD PEACE
UNIVERSITY** | PUNE

TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS



B.Sc. Applied Statistics and Data Analytics

Programme Structure

 mitwpu.edu.in

Division	Faculty of Science & Health Science
School Name	School of Science & Environmental Studies
Department Name	Department of Mathematics and Statistics
Programme Name	B. Sc. (Applied Statistics and Data Analytics)

Semester	Odd (I)	Even (II)	Total Credits
First Year	20	22	42
Second Year	21	21	42
Third Year	21	20	41
Fourth Year	20	20	40

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| 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 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 | Descriptive Statistics-I | 4 |
| I | PF | Introduction to Probability Theory | 4 |
| I | PF | R Programming | 1 |
| I | PM | Calculus | 3 |
| I | PM | Discrete Mathematics | 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 | Introduction to Number Theory | 3 |
| II | PF | Introduction to Python | 1 |
| II | PF | Operations Research | 2 |
| II | PM | Probability Distributions | 3 |
| II | PM | Descriptive Statistics-II | 2 |
| II | PM | Linear Algebra | 2 |
| | | Total Credits: | 22 |

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 | Introduction to Machine Learning | 4 |
| III | PM | Survey Sampling Theory | 3 |
| III | PM | Sampling Distributions | 4 |
| III | PM | Statistical Inference | 4 |
| | | Total Credits: | 21 |

SEMESTER - IV

| Semester | Course Type | Course Name / Course Title | Total Credits |
|----------|-------------|--|---------------|
| IV | UC | Rural Immersion | 2 |
| IV | UE | University Electives - II | 3 |
| IV | PF | Introduction to Design of Experiments | 4 |
| IV | PF | IKS (Program Specific): Mathematics in India:
From vedic period to modern times | 2 |
| IV | PM | Numerical Methods | 3 |
| IV | PM | Cryptography | 2 |
| IV | PM | Multivariate Analysis | 3 |
| IV | PM | Testing of Hypothesis | 2 |
| | | Total Credits: | 21 |

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 | PF | Introduction to Database Management System | 4 |
| V | PF | Stochastic Processes | 4 |
| V | PM | Regression Analysis | 3 |
| V | Program Capstone Project/ Seminar and Internships | Project Based on Database Management System | 1 |
| | | Total Credits: | 21 |

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 | PF | Data Mining Lab | 1 |
| VI | PF | Introduction to Time Series | 4 |
| VI | PF | Time Series Lab | 1 |
| VI | PM | Introduction to Data Mining | 4 |
| VI | Program Capstone Project/ Seminar and Internships | Project based on Sampling methods | 2 |
| | | Total Credits: | 20 |

Semester - VII

| Semester | Course Type | Course Name / Course Title | Total Credits |
|----------|--|-----------------------------------|---------------|
| VII | PF | Program Elective - III | 4 |
| VII | PM | Basics of Economics | 3 |
| VII | PM | Biostatistics | 4 |
| VII | Program Capstone Project/
Seminar and Internships | Project based on Machine Learning | 4 |
| VII | Program Capstone Project/
Seminar and Internships | Research Methodology | 5 |
| | | Total Credits | 20 |

Semester - VII

| Semester | Course Type | Course Name / Course Title | Total Credits |
|----------|--|--|---------------|
| VIII | PE | Program Elective - IV | 4 |
| VIII | Program Capstone Project/Seminar and Internships | Project based on Statistical Inference | 4 |
| VIII | Program Capstone Project/Seminar and Internships | Internship | 12 |
| | | Total Credits: | 20 |

*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.