



FACULTY OF  
ENGINEERING AND  
TECHNOLOGY



***B.Tech. After 10th (3 years Diploma + 3 years Degree) in Mechanical Engineering - Robotics and Automation***

Division	Faculty of Engineering and Technology
School Name	School of Engineering & Technology
Department Name	Department of Polytechnic
Programme Name	B.Tech. After 10th (3 years Diploma + 3 years Degree) in Mechanical Engineering - Robotics and Automation

+ + + + + + + + + + + + **COURSE BASKET** + + + + + + + + + + + +

| Course Type  | Description   | % Credit Allotment | Credits Assigned |
|--|---|--------------------|------------------|
| Discipline Specific Core (DSC)                       | These courses are mandatory and provide the foundational knowledge within a student's chosen discipline at MIT-WPU            | 44.5               | 56               |
| Discipline Specific Elective (DSE)                   | DSEs offer a pool of courses within a student's discipline, allowing them to specialize or explore related areas of interest. | 4.8                | 6                |
| Ability Enhancement Course (AEC)                     | AECs focus on enhancing language skills, communication, and other soft skills.  | 16.7               | 21               |
| Skill Enhancement Course (SEC)                       | SECs provide hands-on training and practical skills to enhance employability and other practical applications of knowledge.   | 13.5               | 17               |
| Value Education Course (VEC)                         | These courses aim to develop values, ethics, and societal awareness beyond the specific academic discipline.                  | 4                  | 5                |
| Internship/ Apprenticeship/ Project/ Community (INP) | INP courses provide practical experience through internships, apprenticeships, research projects, or community engagement.    | 13.5               | 17               |
| University Core (UC)                                 | Courses that reflect the core MIT-WPU values and the mission of Life Transformation of students.                              | 3.2                | 4                |
| <b>Total</b>   |   | <b>100</b>         | <b>126</b>       |

### Semester I

| Semester | Course Type | Course Name / Course Title                 | Total Credits |
|----------|-------------|--|---------------|
| I        | AEC         | Basic Mathematics                          | 4             |
| I        | DSC         | Basic Physics                              | 3             |
| I        | DSC         | Basic Chemistry                            | 2             |
| I        | SEC         | Essentials of Computers                    | 2             |
| I        | AEC         | Communicative Competence                   | 3             |
| I        | VEC         | Yoga and Meditation                        | 1             |
| I        | DSC         | Engineering Graphics                       | 3             |
| I        | SEC         | Mechanical Workshop                        | 2             |
|          |             | <b>Total Credits:</b>                      | <b>20</b>     |
| I        | UC          | Social Learning Development Program [SLDP] | 1             |

### Semester II

| Semester | Course Type | Course Name / Course Title                 | Total Credits |
|----------|-------------|--|---------------|
| II       | AEC         | Applied Mathematics                        | 2             |
| II       | DSC         | Applied Physics                            | 2             |
| II       | DSC         | Applied Chemistry                          | 2             |
| II       | DSC         | Engineering Mechanics                      | 3             |
| II       | SEC         | Engineering Drawing                        | 4             |
| II       | DSC         | Manufacturing Technology                   | 4             |
| II       | VEC         | Social and Life Skills                     | 1             |
| II       | VEC         | Environmental Education And Sustainability | 2             |
|          |             | <b>Total Credits</b>                       | <b>20</b>     |
| II       | UC          | SPORTS                                     | 1             |

### First Year Exit

| Sr. No. | Course Type | Course Title             | Credits  |
|---------|-------------|--------------------------|----------|
| 1       | DSC         | Manufacturing Technology | 4        |
| 2       | INP         | Exit Internship I        | 4        |
|         |             | <b>Total Credits</b>     | <b>8</b> |

### Semester - III

| Semester | Course Type | Course Name / Course Title             | Total Credits |
|----------|-------------|--|---------------|
| III      | DSC         | Mechanics of Materials                 | 3             |
| III      | DSC         | Principles of Robotics                 | 3             |
| III      | DSC         | Production Processes                   | 3             |
| III      | SEC         | Production Drawing                     | 3             |
| III      | AEC         | Basic Electrical and Electronics       | 3             |
| III      | SEC         | Computer Aided Drafting                | 2             |
| III      | AEC         | Fundamentals of Python Programming     | 2             |
| III      | VEC         | Essence of Indian Constitution         | 1             |
|          |             | <b>Total Credits</b>                   | <b>20</b>     |
| III      | AEC         | Linear Algebra & Differential Calculus | 1             |

### SEMESTER - IV

| Semester | Course Type | Course Name / Course Title             | Total Credits |
|----------|-------------|--|---------------|
| IV       | DSC         | Mechanics of Machines                  | 3             |
| IV       | DSC         | Measurements & Automation Basics       | 4             |
| IV       | DSC         | Mechanical Engineering Materials       | 3             |
| IV       | DSC         | Thermal Engineering                    | 3             |
| IV       | AEC         | Basics Of Mechatronics                 | 2             |
| IV       | SEC         | CNC Programming                        | 2             |
| IV       | DSE         | Computer Integrated Manufacturing      | 3             |
| IV       |             | Renewable Energy and Energy Management |               |
| IV       |             | Automotive Engineering                 |               |
|          |             | <b>Total Credits</b>                   | <b>20</b>     |
| IV       | AEC         | INTEGRAL CALCULUS                      | 1             |
| IV       | UC          | CO-Creation                            | 1             |
| IV       | UC          | Foundation of Peace                    | 1             |

### Second Year Exit

| Sr. No. | Course Type | Course Name / Course Title | Credits  |
|---------|-------------|----------------------------|----------|
| 1       | INP         | Exit Internship II         | 4        |
| 2       | SEC         | MOOC                       | 4        |
|         |             | <b>Total Credits</b>       | <b>8</b> |

### Semester - V

| Semester | Course Type | Course Name / Course Title                 | Total Credits |
|----------|-------------|--|---------------|
| V        | INP         | Capstone Project                           | 2             |
| V        | DSC         | Industrial Engineering and Quality Control | 3             |
| V        | DSC         | Design of Machine Elements                 | 4             |
| V        | DSC         | Power Engineering                          | 3             |
| V        | DSC         | Industrial Hydraulics and Pneumatics       | 3             |
| V        | SEC         | Solid Modelling & 3D Printing              | 2             |
| V        | DSE         | Power Plant Engineering                    | 3             |
| V        |             | Automation Tools & Systems                 |               |
| V        |             | Product Design And Development             |               |
|          |             | <b>Total Credits:</b>                      | <b>20</b>     |

### Semester - VI

| Semester | Course Type | Course Name / Course Title                | Total Credits |
|----------|-------------|---|---------------|
| VI       | INP         | Internship                                | 15            |
| VI       | AEC         | Project Seminar                           | 1             |
| VI       | DSC         | Emerging Trends In Mechanical Engineering | 1             |
| VI       | AEC         | Management                                | 2             |
| VI       | AEC         | Entrepreneurship Development              | 1             |
|          |             | <b>Total Credits:</b>                     | <b>20</b>     |

\*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.

\*\*For the course Applied Science- candidates will have to appear for pre-examination of both Physics and Chemistry . If absent in any one section ( Physics/ Chemistry) student will be declared as absent & fail for the course and marks will not be processed or carried forward.