



FACULTY OF  
ENGINEERING AND  
TECHNOLOGY



## *BCA Science*

Division	Faculty of Engineering and Technology
School Name	School of Computer Science & Engineering
Department Name	Department of Computer Science and Applications
Programme Name	BCA Science

Semester	Odd (I)	Even (II)	Total Credits
First Year	20	21	41
Second Year	22	21	43
Third Year	20	21	41
Fourth Year	21	19	40

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| 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 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          | Introduction to Digital Electronics   | 3             |
| I        | PF          | Probability and Statistics            | 3             |
| I        | PF          | Database Management System            | 4             |
| I        | PF          | C Programming                         | 5             |
|          |             | <b>Total Credits:</b>                 | <b>20</b>     |

## Semester II

| Semester | Course Type        | Course Name / Course Title                             | Total Credits |
|----------|--------------------|--|---------------|
| II       | University Core    | Yoga - II  | 1             |
| II       | University Core    | Co-creation  | 1             |
| II       | University Core    | AI for everyone  | 2             |
| II       | University Core    | Foundation of Peace                                    | 2             |
| II       | University Core    | Indian Knowledge System (General)                      | 2             |
| II       | University Core    | Sports   | 1             |
| II       | Program Foundation | Computer Organization & Introduction to Microprocessor | 2             |
| II       | Program Foundation | Discrete Mathematics                                   | 3             |
| II       | Program Foundation | Introduction to Web Technology                         | 4             |
| II       | Program Foundation | <b>Introduction to Artificial Intelligence</b>         | <b>3</b>      |
|          |                    | <b>Total Credits:</b>                                  | <b>21</b>     |

### 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          | Linear Algebra                                     | 2             |
| III      | PF          | Introduction to Python Programming                 | 4             |
| III      | PF          | Software Engineering                               | 3             |
| III      | PF          | Computer Networks                                  | 3             |
| III      | PM          | Data Structures Using C                            | 4             |
|          |             | <b>Total Credits:</b>                              | <b>22</b>     |

### 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   | Introduction to Machine Learning Using Python | 4             |
| IV       | PM   | Operating System                              | 3             |
| IV       | PM   | Object Oriented Programming Using C++         | 3             |
| IV       | Program Capstone Project/Seminar and Internships | Mini Project                                  | 4             |
| IV       | PF   | Indian Knowledge System (Sci. & Tech.)        | 2             |
|          |  | <b>Total Credits:</b>                         | <b>21</b>     |

### 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   | Programming in JAVA                                 | 4             |
| V        | PM   | Introduction to Cloud Computing                     | 3             |
| V        | Program Capstone Project/Seminar and Internships |   | 0             |
| V        | PM   | Advanced Web Technology                             | 3             |
| V        | Program Capstone Project/Seminar and Internships | Career Essentials                                   | 1             |
|          |  | <b>Total Credits:</b>                               | <b>20</b>     |

### 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   | Blockchain Technologies             | 3             |
| VI       | PM   | Mobile Application Development      | 4             |
| VI       | PM   | Advanced Java                       | 5             |
| VI       | Program Capstone Project/Seminar and Internships |                                     | 0             |
| VI       | PM   | Internet of Things                  | 3             |
|          |  | <b>Total Credits:</b>               | <b>21</b>     |

### Semester - VII

| Semester | Course Type                                      | Course Name / Course Title | Total Credits |
|----------|--|----------------------------|---------------|
| VII      | PE   | Program Elective - III     | 4             |
| VII      | PM   | Cloud Technologies         | 3             |
| VII      | PM   | DevOps                     | 4             |
| VII      | Program Capstone Project/Seminar and Internships | Data Visualization         | 5             |
| VII      | PM   | Research Methodology       | 2             |
| VII      | Program Capstone Project/Seminar and Internships | Research Paper Writing     | 3             |
| VII      | Program Capstone Project/Seminar and Internships |                            | 0             |
|          |  | <b>Total Credits:</b>      | <b>21</b>     |

### Semester - VIII

| Semester | Course Type                                      | Course Name / Course Title             | Total Credits |
|----------|--|--|---------------|
| VIII     | Program Electives                                | Program Elective - IV                  | 4             |
| VIII     | Program Capstone Project/Seminar and Internships | Full-Time Industry Project/ Internship | 15            |
| VIII     | Program Capstone Project/Seminar and Internships |  | 0             |
|          |  | <b>Total Credits:</b>                  | <b>19</b>     |

## Program Elective Tracks

| Semester | Course Type | Course Name / Course Title          | Total Credits |
|----------|-------------|-------------------------------------|---------------|
| V        | PE - I      | Introduction to Cyber Security      | 4             |
| V        | PE - I      | Introduction to Data Science        | 4             |
| V        | PE - I      | Introduction to Quantum Computing   | 4             |
| VI       | PE - II     | Cyber Law & IT Act                  | 4             |
| VI       | PE - II     | Data Science with Open Source Tools | 4             |
| VI       | PE - II     | E-commerce and E-business           | 4             |
| VII      | PE - III    | Intellectual Property Right         | 4             |
| VII      | PE - III    | Natural Language Processing         | 4             |
| VII      | PE - III    | Intelligent IoT Systems             | 4             |
| VIII     | PE - IV     | Cyber Forensics                     | 4             |
| VIII     | PE - IV     | Big Data Technologies               | 4             |
| VIII     | PE - IV     | Entrepreneurship in IT              | 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.