

**AY2023-24 CURRICULUM FOR BACHELOR OF ENGINEERING (CIVIL)  
WITH SECOND MAJOR IN SUSTAINABILITY - PROFESSIONAL INTERNSHIP  
(FIRST YEAR ADMISSION)**

Last Updated : 22-Feb-23

| SUMMARY OF ACADEMIC UNIT REQUIREMENT |           |          |           |           |           |            |
|--------------------------------------|-----------|----------|-----------|-----------|-----------|------------|
| Year of Study                        | Core      | MPE      | CC        | FC        | BDE       | Total AU   |
| 1                                    | 28        | 0        | 9         | 0         | 0         | 37         |
| 2                                    | 24        | 0        | 8         | 3         | 6         | 41         |
| 3                                    | 11        | 0        | 0         | 12        | 6         | 29         |
| 4                                    | 17        | 3        | 0         | 0         | 16        | 36         |
| <b>Total</b>                         | <b>80</b> | <b>3</b> | <b>17</b> | <b>15</b> | <b>28</b> | <b>143</b> |

\* Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).

^ The Course will be double counted towards Primary Programme and Second Major in Sustainability

| YEAR 1 SEMESTER 1 |  |      |           |               |
|-------------------|--|------|-----------|---------------|
| Course Code       | Course Title   | Type | AU        | Pre-Requisite |
| MH1810            | Mathematics 1  | C    | 3         |               |
| PH1011            | Physics*   | C    | 3         |               |
| FE1073            | An Introduction to Engineering & Practices               | C    | 1         |               |
| CV1011            | Mechanics of Materials                                   | C    | 4         |               |
| CV1012            | Fluid Mechanics  | C    | 3         |               |
| CC0001            | Inquiry and Communication in the Interdisciplinary World | CC   | 2         |               |
| CC0002            | Navigating the Digital World                             | CC   | 2         |               |
|                   |  |      | <b>18</b> |               |

| YEAR 1 SEMESTER 2 |   |      |           |               |
|-------------------|---|------|-----------|---------------|
| Course Code       | Course Title                              | Type | AU        | Pre-Requisite |
| MH1811            | Mathematics 2                             | C    | 3         | MH1810        |
| CV1013            | Civil Engineering Materials               | C    | 3         |               |
| CV1014            | Introduction To Computational Thinking    | C    | 3         |               |
| CV2020            | Water Resources Engineering               | C    | 3         | CV1012        |
| EG1001 ^          | Engineers In Society                      | C    | 2         |               |
| CC0003            | Ethics & Civics in a Multi-Cultural World | CC   | 2         |               |
| CC0005            | Healthy Living & Wellbeing                | CC   | 3         |               |
|                   |   |      | <b>19</b> |               |

| YEAR 2 SEMESTER 1 |   |      |           |                   |
|-------------------|---|------|-----------|-------------------|
| Course Code       | Course Title  | Type | AU        | Pre-Requisite     |
| CV2011            | Structural Analysis I                                       | C    | 3         | CV1011            |
| CV2013            | Engineering Geology & Soil Mechanics                        | C    | 3         |                   |
| CV2711            | Civil Engineering Laboratory A                              | C    | 1         |                   |
| MH2814            | Probability & Statistics                                    | C    | 3         | MH1810            |
| CV0003            | Introduction to Data Science and Artificial Intelligence    | FC   | 3         | CV1014            |
| CC0006            | Sustainability: Human, Society, Economy & Environment       | CC   | 3         |                   |
| ML0004            | Career and Entrepreneurial Development for the Future World | CC   | 2         |                   |
|                   | Sustainability-Core   | BDE  | 3         | Refer to Syllabus |
|                   |   |      | <b>21</b> |                   |

| YEAR 2 SEMESTER 2 |   |      |    |               |
|-------------------|---|------|----|---------------|
| Course Code       | Course Title  | Type | AU | Pre-Requisite |
| CV1711            | Engineering Drawing and 3D Building Information Modelling | C    | 1  |               |

|        |  |     |           |                   |
|--------|--|-----|-----------|-------------------|
| CV2012 | Structural Analysis II                 | C   | 3         | CV2011            |
| CV2014 | Geotechnical Engineering               | C   | 3         | CV2013            |
| CV2019 | Matrix Algebra & Computational Methods | C   | 3         |                   |
| CV2712 | Civil Engineering Laboratory B         | C   | 1         |                   |
| CV3012 | Steel Design                           | C   | 3         | CV2011            |
| CC0007 | Science & Technology for Humanity      | CC  | 3         |                   |
|        | Sustainability-Core                    | BDE | 3         | Refer to Syllabus |
|        |  |     | <b>20</b> |                   |

#### YEAR 3 SEMESTER 1

| Course Code | Course Title               | Type | AU        | Pre-Requisite     |
|-------------|----------------------------|------|-----------|-------------------|
| CV3011      | Reinforced Concrete Design | C    | 3         | CV2011            |
| CV3013      | Foundation Engineering     | C    | 3         | CV2013 & CV2014   |
| CV3014      | Transportation Engineering | C    | 3         |                   |
| CV3017      | Environmental Engineering  | C    | 2         | CV1012            |
| HW0288      | Engineering Communication  | FC   | 2         | CC0001            |
|             | Sustainability-Core        | BDE  | 3         | Refer to Syllabus |
|             | Sustainability-Elective    | BDE  | 3         | Refer to Syllabus |
|             |                            |      | <b>19</b> |                   |

#### YEAR 3 SEMESTER 2

| Course Code | Course Title            | Type | AU        | Pre-Requisite   |
|-------------|-------------------------|------|-----------|---|
| CV3914      | Professional Internship | FC   | 10        | Year 3 standing & completed at least 4 semesters of study |
|             |                         |      | <b>10</b> |   |

#### YEAR 4 SEMESTER 1

| Course Code | Course Title                             | Type | AU        | Pre-Requisite     |
|-------------|--|------|-----------|-------------------|
| CV4012      | Project Planning & Management            | C    | 2         | Year 4 Standing   |
| CV4711      | Seminars & Site Visits                   | C    | 1         |                   |
| CV4911      | Final Year Project                       | C    | 4         | Year 4 Standing   |
| CV4XXX      | Major Prescribed Elective                | MPE  | 3         | Refer to Syllabus |
|             | Sustainability-Core                      | BDE  | 3         | Refer to Syllabus |
|             | Sustainability-Elective                  | BDE  | 3         | Refer to Syllabus |
|             | Sustainability-Interdisciplinary Project | BDE  | 3         | Refer to Syllabus |
|             |  |      | <b>19</b> |                   |

#### YEAR 4 SEMESTER 2

| Course Code | Course Title                        | Type | AU        | Pre-Requisite     |
|-------------|-------------------------------------|------|-----------|-------------------|
| CV3016      | Construction Technology & Processes | C    | 3         |                   |
| CV4911      | Final Year Project                  | C    | 4         | Year 4 Standing   |
| CV4912      | Integrated Design Project           | C    | 3         | Year 4 Standing   |
|             | Sustainability-Elective             | BDE  | 4         | Refer to Syllabus |
|             | Sustainability-Elective             | BDE  | 3         | Refer to Syllabus |
|             |                                     |      | <b>17</b> |                   |

Total AU for Graduation : **143**