**Syllabus to be implemented from the Academic Year 2014-15**

**Civil Engineering**

**First Year First Semester: Civil Engineering**

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| **A. THEORY** | | | | | | | | |  |
| Sl. No. | Course Code | Theory | Contact Hours/Week | | | | Credit  Points | |
| L | T | P | Total |
| 1 | HU101 | English Language  & Technical  Communication-I | 2 | 0 | 0 | 2 | 2 | |
| 2 | PH101 | Physics-I | 3 | 1 | 0 | 4 | 3 | |
| 3 | M101 | Mathematics-I | 3 | 1 | 0 | 4 | 3 | |
| 4 | ES101 | Basic Electrical &  Electronic Engineering-I | 3 | 0 | 0 | 3 | 4 | |
| 5 | ME101 | Engineering Mechanics | 3 | 0 | 0 | 3 | 3 | |
| 6 | CS101 | Basic Computation &  Principles of Computer  Programming-I | 3 | 0 | 0 | 3 | 3 | |
| Total of Theory | | |  |  |  | 19 | 18 | |
| **B. PRACTICAL** | | | | | | | | |
| 7 | PH191 | Physics-I Lab | 0 | 0 | 3 | 3 | 2 | |
| 8 | ES191 | Basic Electrical &  Electronic Engineering-I Lab | 0 | 0 | 3 | 3 | 2 | |
| 9 | ME191 | Engineering Drawing &  Computer Graphics Lab | 1 | 0 | 3 | 4 | 3 | |
| 10 | CS191 | Basic Computation &  Principles of Computer  Programming-I Lab | 0 | 0 | 3 | 3 | 2 | |
| Total of Practical | | |  |  |  | 13 | 9 | |
| **C. SESSIONAL** | | | | | | | | |
| 11 | HU181 | Language Laboratory-I | 0 | 0 | 2 | 2 | | 2 |  |
| 12 | XC181 | Extra Curricular  Activities(NSS/NCC/NSO  etc) | 0 | 0 | 2 | 2 | | 1 |  |
| Total of Sessional | | | | | | 4 | | 3 |  |
| Total of Semester | | | | | | 36 | | 30 |  |

**First Year Second Semester: Civil Engineering**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A. THEORY** | | | | | | | | | | | | | |  |
| Sl. No. | Course Code | Theory | | Contact Hours/Week | | | | | | | | | Credit  Points |
| L | | T | | P | | Total | | |
| 1 | CS201 | Principles of Computer  Programming-(C++) | | 3 | | 1 | | 0 | | 4 | | | 4 |
| 2 | PH201 | Physics-II | | 3 | | 1 | | 0 | | 4 | | | 3 |
| 3 | M201 | Mathematics-II | | 3 | | 1 | | 0 | | 4 | | | 3 |
| 4 | ES201 | Basic Electrical &  Electronic Engineering-II | | 3 | | 1 | | 0 | | 4 | | | 4 |
| 5 | ME201 | Engineering  Thermodynamics & Fluid  Mechanics | | 3 | | 1 | | 0 | | 4 | | | 3 |
| 6 | HU201 | English Language  & Technical Communication-II | | 2 | | 0 | | 0 | | 2 | | | 2 |
| Total of Theory | | | |  | |  | |  | | 22 | | | 19 |
| **B. PRACTICAL** | | | | | | | | | | | | | |
| 7 | CS291 | Principles of Computer  Programming-II Lab | 0 | | 0 | | 3 | | 3 | | 2 | | |
| 8 | PH291 | Physics-II Lab | 0 | | 0 | | 3 | | 3 | | 2 | | |
| 9 | ES291 | Basic Electrical &  Electronic Engineering-II Lab | 0 | | 0 | | 3 | | 3 | | 2 | | |
| 10 | ME291 | Workshop Practice Lab | 1 | | 0 | | 3 | | 4 | | 3 | | |
| Total of Practical | | |  | |  | |  | | 13 | | 9 | | |
| **C. SESSIONAL** | | | | | | | | | | | | | |
| 11 | HU281 | Language Laboratory-II | 0 | | 0 | | 2 | | 2 | | | 2 | |  |
| Total of Sessional | | | | | | | | | 2 | | | 2 | |  |
| Total of Semester | | | | | | | | | 37 | | | 30 | |  |

**Second Year Third Semester: Civil Engineering**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A. THEORY** | | | | | | | | | | |
| Sl. No | Course  Code | Theory | Contact hours per  week | | | | | | | Credit  Points |
| L | | T | | P | | Total |
| 1 | M301 | Mathematics-III | 3 | | 1 | | 0 | | 4 | 4 |
| 2 | CS(CE)301 | Data Structure & Algorithm | 3 | | 1 | | 0 | | 4 | 3 |
| 3 | CH301 | Basic Environmental Engineering | 2 | | 1 | | 0 | | 3 | 3 |
| 4 | CE301 | Solid Mechanics | 3 | | 0 | | 0 | | 3 | 3 |
| 5 | CE302 | Surveying | 3 | | 1 | | 0 | | 4 | 4 |
| 6 | CE303 | Building Material & Construction | 3 | | 1 | | 0 | | 4 | 4 |
| Total Theory | | | | | | | | | 22 | 21 |
| **B. PRACTICAL** | | | | | | | | | | |
| 7 | CS(CE)391 | Data Structure & Algorithm Lab | 0 | 0 | | 3 | | 3 | | 2 |
| 8 | CE391 | Solid Mechanics Lab | 0 | 0 | | 3 | | 3 | | 2 |
| 9 | CE392 | Surveying Practice-I Lab | 0 | 0 | | 3 | | 3 | | 2 |
| 10 | CE393 | Building Design & Drawing Lab | 0 | 0 | | 3 | | 3 | | 2 |
| Total of Practical | | | | | | | | 12 | | 8 |
| Total of Semester | | | | | | | | 34 | | 29 |

**Second Year Fourth Semester: Civil Engineering**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **A. THEORY** | | | | | | | |
| Sl. No | Course  Code | Theory | Contact hours per  week | | | | Credit  Points |
| L | T | P | Total |  |
| 1 | M(CS)401 | Numerical Methods | 2 | 1 | 0 | 3 | 3 |
| 2 | HU 401 | Values & Ethics in Profession | 3 | 1 | 0 | 4 | 3 |
| 3 | CE401 | Fluid Mechanics | 3 | 0 | 0 | 3 | 3 |
| 4 | CE402 | Structural Analysis | 3 | 1 | 0 | 4 | 4 |
| 5 | CE403 | Soil Mechanics | 3 | 1 | 0 | 4 | 4 |
| Total Theory | | | | | | 18 | 17 |
| **B. PRACTICAL** | | | | | | | |
| 6 | HU481 | Technical Report Writing &  Language Lab Practice | 0 | 0 | 3 | 3 | 1 |
| 7 | M(CS)491 | Numerical Methods Lab | 0 | 0 | 3 | 3 | 2 |
| 8 | CE491 | Fluid Mechanics Lab | 0 | 0 | 3 | 3 | 2 |
| 9 | CE492 | Surveying Practice-II Lab | 0 | 0 | 3 | 3 | 2 |
| 10 | CE493 | Soil Mechanics I Lab | 0 | 0 | 3 | 3 | 2 |
| Total of Practical | | | | | | 15 | 9 |
| Total of Semester | | | | | | 33 | 26 |

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**Third Year Fifth Semester: Civil Engineering**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **A. THEORY** | | | | | | | |
| Sl. No | Course  Code | Theory | Contact hours per  week | | | | Credit  Points |
| L | T | P | Total |
| 1 | HU501 | Organizational Behavior | 3 | 0 | 0 | 3 | 3 |
| 2 | CE501 | Foundation Engineering | 3 | 1 | 0 | 4 | 4 |
| 3 | CE502 | Design of RC Structures | 3 | 1 | 0 | 4 | 4 |
| 4 | CE503 | Concrete Technology | 3 | 0 | 0 | 3 | 3 |
| 5 | CE504 | Engineering Geology | 3 | 0 | 0 | 3 | 3 |
| Total Theory | | | | | | 17 | 17 |
| **B. PRACTICAL** | | | | | | | |
| 6 | CE591 | Soil Mechanics Lab-II | 0 | 0 | 3 | 3 | 2 |
| 7 | CE592 | Concrete Laboratory | 0 | 0 | 3 | 3 | 2 |
| 8 | CE593. | Quantity Surveying, Specifications and Valuation Lab | 0 | 0 | 3 | 3 | 2 |
| 9 | CE594 | Engineering Geology Lab | 0 | 0 | 3 | 3 | 2 |
| Total Practical | | | | | | 12 | 8 |
| Total of Semester | | | | | | 29 | 25 |

**Third Year Sixth Semester: Civil Engineering**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **A. THEORY** | | | | | | | |
| Sl. No | Course  Code | Theory | Contact hours per week | | | | Credit  Points |
| L | T | P | Total |
| 1 | HU601 | Principles of Management | 2 | 1 | 0 | 3 | 2 |
| 2 | CE601 | Highway & Transportation Engineering | 3 | 0 | 0 | 3 | 3 |
| 3 | CE602 | Design of Steel Structure | 3 | 0 | 0 | 3 | 3 |
| 4 | CE603 | Construction Planning and Management | 3 | 0 | 0 | 3 | 3 |
| 5 | CE604 | Professional Elective-I | 3 | 0 | 0 | 3 | 3 |
| 6 | CE605 | Free Elective-I | 3 | 0 | 0 | 3 | 3 |
| Total Theory | | | | | | 18 | 17 |
| **B. PRACTICAL** | | | | | | | |
| 7 | CE691 | Highway & Transportation Engg. Lab | 0 | 0 | 3 | 3 | 2 |
| 8 | CE692 | Detailing of RC and Steel Structures Lab | 0 | 0 | 3 | 3 | 2 |
| 9 | CE693 | CAD Lab | 0 | 0 | 3 | 3 | 2 |
| 10 | CE681 | Seminar | 0 | 0 | 3 | 3 | 2 |
| Total Practical | | | | | | 12 | 8 |
| Total of Semester | | | | | | 30 | 25 |

**List of Electives:**

**Professional Elective-I**

1. CE604A: Bridge Engineering

2. CE604B: Pre-stressed Concrete

3. CE604C: Structural Dynamics and Earthquake Engineering

**Free Elective-I**

1. CE605A: Operations Research (M)

2. CE605B: Human Resource Management (HSS)

3. CE605C: Materials Handling (ME)

4. CE605D: Solid Waste Management

**Fourth Year Seventh Semester: Civil Engineering**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A. THEORY** | | | | | | | | |
| Sl. No | Course  Code | Theory | Contact hours per week | | | | | Credit Points |
| L | T | P | | Total |
| 1 | CE701 | Environmental Engineering | 3 | 0 | 0 | | 3 | 3 |
| 2 | CE702 | Water Resource Engineering | 3 | 0 | 0 | | 3 | 3 |
| 3 | CE703 | Professional Elective-II | 3 | 0 | 0 | | 3 | 3 |
| 4 | CE704 | Professional Elective-III | 3 | 0 | 0 | | 3 | 3 |
| 5 | CE705 | Free Elective-II | 3 | 0 | 0 | | 3 | 3 |
| Total Theory | | | | | | | 15 | 15 |
| **B. PRACTICAL** | | | | | | | | |
| 7 | CE791 | Environmental Engg Lab | 0 | 0 | 3 | | 3 | 2 |
| 8 | CE793 | Free Elective Lab | 0 | 0 | 3 | | 3 | 2 |
| 9 | CE781 | Seminar on Industrial Training | 4 weeks duration during 6th-  7th Semester break | | | | | 2 |
| 10 | HU781 | Group Discussion |  | | | | | 2 |
| 11 | CE782 | Project Part-I |  |  | 6 | 6 | | 4 |
| Total Practical | | | | | | 12 | | 12 |
| Total of Semester | | | | | | 27 | | 27 |

**List of Electives:**

**Free Elective-II**

1. CE705A: Engineering Materials (ME303)
2. CE705B: Electrical and Electronic Measurement (EE402)

**Free Elective Lab**

1. CE793A: Material Testing Lab (ME493)
2. CE793B: Electrical and Electronic Measurement Laboratory (EE492)

**Professional Elective-II**

1.CE703A: Advanced Foundation Engineering

2. CE703B: Soil Stabilization and Ground Improvement Techniques

3. CE703C: Advanced Highway and Transportation Engineering

**Professional Elective-III**

1. CE704A: Advanced Structural Analysis
2. CE704B: Hydraulic Structures

**Fourth Year Eighth Semester: Civil Engineering**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A. THEORY** | | | | | | | | |
| Sl. No | Course  Code | Theory | Contact hours per week | | | | | Credit  Points |
| L | T | P | | Total |
| 1 | HU802 | Economics for Engineers | 2 | 0 | 0 | | 2 | 2 |
| 2 | CE801 | Professional Elective-IV | 3 | 0 | 0 | | 3 | 3 |
| 3 | CE802 | Professional Elective-V | 3 | 0 | 0 | | 3 | 3 |
| Total Theory | | | | | | | 8 | 8 |
| **B. PRACTICAL** | | | | | | | | |
| 4 | CE891 | Structural Engineering Design Practice | 0 | 0 | | 3 | 3 | 3 |
| 5 | CE881 | Grand Viva | 0 | 0 | | 0 | 0 | 4 |
| 6 | CE882 | Project Part-II |  |  | | 12 | 12 | 6 |
| Total Practical | | | | | | | 21 | 13 |
| Total of Semester | | | | | | | 29 | 21 |

**List of Electives:**

**Professional Elective-IV**

1. CE801A: Environmental Pollution and Control
2. CE801B: Water Resource Management and Planning
3. CE801C: Remote Sensing and GIS

**Professional Elective-V**

1. CE802A: Finite Element Method
2. CE802B: Dynamics of Soils & Foundations
3. CE802C: Design of Tall Buildings
4. CE802D: Pavement Design