**POKHARA UNIVERSITY**

**Bachelor of Engineering in Software Engineering**

**Curriculum Structure (Revised, 2011)**

The Bachelor of Engineering in Software Engineering program is designed to produce high quality experts in the field of software development. It is a four-year program spread over eight semesters. A student needs to successful complete 133 credit hours of course work, practical and project work for graduation.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Semester I** |  |  |  | **Semester II** |  |
| **Course**  **Code** | **Course Description** | **Credit**  **Hours** |  | **Course**  **Code** | **Course Description** | **Credit**  **Hours** |
| MTH 112 | Engineering Mathematics I | 3 |  | MTH 114 | Engineering Mathematics II | 3 |
| PHY 111 | Physics | 4 |  | ELX 212 | Logic Circuits | 3 |
| ENG 111 | Communication Techniques | 2 |  | MTH 130 | Mathematical Foundation of Computer Science | 3 |
| CMP 110 | Fundamentals of IT | 2 |  | MEC 120 | Engineering Drawing | 2 |
| CMP 113 | Programming in C | 3 |  | CMP 115 | Object Oriented Programming in C++ | 3 |
| CMP 114 | Problem Solving Techniques | 3 |  | CMP 213 | Web Technology | 3 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Semester III** |  |  |  | **Semester IV** |  |
| **Course**  **Code** | **Course Description** | **Credit**  **Hours** |  | **Course**  **Code** | **Course Description** | **Credit**  **Hours** |
| MTH 212 | Engineering Mathematics III | 3 |  | MTH 230 | Numerical Methods | 3 |
| CMP 220 | Software Engineering Fundamentals | 3 |  | CMP 241 | Computer Graphics | 3 |
| CMP 225 | Data Structure and Algorithms | 3 |  | CMP 334 | Computer Organization and Architecture | 3 |
| MTH 221 | Probability and Queuing Theory | 2 |  | CMP 226 | Database Management Systems | 3 |
| CMP 212 | Programming in Java | 3 |  | CMP 321 | Object Oriented Design and Modeling through UML | 3 |
| CMP 214 | Microprocessor and Assembly Language Programming | 3 |  | CMP 290 | Project I | 1 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Semester V** |  |  |  | **Semester VI** |  |
| **Course**  **Code** | **Course Description** | **Credit**  **Hours** |  | **Course**  **Code** | **Course Description** | **Credit**  **Hours** |
| CMP 331 | Applied Operating Systems | 3 |  | CMP 335 | Computer Networks | 3 |
| CMP 350 | Simulation and Modeling | 3 |  | CMP 312 | Principles of Programming Languages | 3 |
| CMP 457 | Artificial Intelligence and Neural Networks | 3 |  | ECO 411 | Engineering Economics | 3 |
| MGT 321 | Organization and Management | 2 |  | CMP 322 | Object Oriented Software Development | 3 |
| CMP 325 | Analysis and Design of Algorithms | 3 |  | CMP 341 | Multimedia Systems | 3 |
| CMP 311 | System Programming | 3 |  | CMP 390 | Project II | 2 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Semester VII** |  |  |  | **Semester VIII** |  |
| **Course**  **Code** | **Course Description** | **Credit**  **Hours** |  | **Course**  **Code** | **Course Description** | **Credit**  **Hours** |
| CMP 430 | Real Time Systems | 3 |  | CMP 436 | Network Programming | 3 |
| CMP 435 | Distributed Systems | 3 |  | CMP 420 | Software Project Management | 3 |
| CMP 480 | Enterprise Application Development | 3 |  | --- | Elective II | 3 |
| CMP 441 | Image Processing & Pattern Recognition | 3 |  | CMP 490 | Project III | 5 |
| CMP 421 | Software Testing, Verification, Validation and Quality Assurance | 3 |  |  |  |  |
| \_\_\_ --- | Elective I | 3 |  |  |  |  |