**BS Software Engineering - Batch 02-10**

**(S2012-S2016)**

**Total Credit Hrs. =139**

**Total Number of Courses=47**

1st Year

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Fall Semester** | | | | **Spring Semester** | | | |
| **Code** | **Course Title** | **CH** | **Pre-req** | **Code** | **Course Title** | **CH** | **Pre-req** |
| SE-101 | Introduction to Computing | 3(2+1) | - - - - | SE-142 | Structured Programming | 3(2+1) | SE-141 |
| MA-100 | Calculus I | 3 | - - - - | MA-103 | Calculus II | 3 | MA-100 |
| EN-110 | English I | 2 | - - - - | EN-112 | English II | 2 | EN-110 |
| HM-150 | Islamic Studies I | 2 | - - - - | HM-250 | Islamic Studies II | 2 | HM-150 |
| SE-141 | Programming Fundamentals | 3(2+1) | - - - - |  | Humanities/Social Science Elective I | 3 | - - - - |
| ME-105 | Applied Mechanics | 4(3+1) | - - - - | NS-125 | Applied Physics | 4(3+1) | ME-105 |
| Semester Credit Hours | | 17 |  | Semester Credit Hours | | 17 |  |

2nd Year

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Fall Semester** | | | | **Spring Semester** | | | |
| **Code** | **Course Title** | **CH** | **Pre-req** | **Code** | **Course Title** | **CH** | **Pre-req** |
| SE-150 | Object Oriented Programming | 3(2+1) | SE-142 | SE-210 | Data structures and Algorithms | 3(2+1) | SE-142 |
| SE-200 | Discrete Mathematics | 3 | MA-100 | MA-150 | Probability and Statistics | 3 | - - - - |
| SE-220 | Digital Logic Design | 4(3+1) | - - - - | SS-171 | Pakistan Studies | 2 | - - - - |
| MA-230 | Differential Equations | 3 | - - - - | MA-210 | Linear Algebra | 3 | - - - - |
| EN-201 | Communication Skills | 2 | EN-112 | SE-260 | Software Construction | 3 | SE-150 |
|  | Humanities/Social Science Elective II | 3 | - - - - |  | Humanities/Social Science Elective III | 3 |  |
| Semester Credit Hours | | 18 |  | Semester Credit Hours | | 17 |  |

3rd Year

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Fall Semester** | | | | **Spring Semester** | | | |
| **Code** | **Course Title** | **CH** | **Pre-req** | **Code** | **Course Title** | **CH** | **Pre-req** |
| SE-225 | Computer Organization and Assembly Language | 4(3+1) | SE-141 SE-220 | SE-394 | Formal Methods in Software Engineering | 3 | SE-390 |
| SE-370 | Database Systems | 3 | - - - - | SE-391 | Software Requirement Engineering | 3 | SE-390 |
| SE-390 | Software Engineering | 3 | SE-260 | SE-392 | Software Quality and Testing | 3 | SE-390 |
| SE-332 | Computer Networks | 3 | SE-142 MA-150 |  | Humanities/Social Science Elective V | 3 |  |
|  | Humanities/Social Science Elective IV | 3 |  | SE-395 | Software Project Management | 3 | SE-390 |
| SE-310 | Analysis of Algorithms | 3 | SE-200 SE-210 | SE-325 | Operating Systems | 3 | SE-225 SE-210 |
| Semester Credit Hours | | 19 |  | Semester Credit Hours | | 18 |  |

4th Year

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Fall Semester** | | | | **Spring Semester** | | | |
| **Code** | **Course Title** | **CH** | **Pre-req** | **Code** | **Course Title** | **CH** | **Pre-req** |
| SE-xxx | Technical Elective I | 3 |  | SE-xxx | Technical Elective IV | 3 |  |
| SE-491 | Capstone Project I | 3 |  | SE-xxx | Technical Elective V | 3 |  |
| SE-410 | Software Design & Architecture | 3 | SE-390 | SE-492 | Capstone Project II | 3 | SE-491 |
| SE-xxx | Technical Elective II | 3 |  | SE-xxx | Technical Elective VI | 3 |  |
| SE-xxx | Technical Elective III | 3 |  | SE-xxx | Technical Elective VII | 3 |  |
| SE-450 | Human Computer Interaction | 3 |  |  |  |  |  |
| Semester Credit Hours | | 18 |  | Semester Credit Hours | | 15 |  |