**BS Software Engineering - Batch 13-14 (F2017 –S2018) Road Map**

**Total Credit Hrs.=136**

**Total Number of Courses=42**

**Semester 1 Semester 2**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **Pre-req** | **Cr. Hrs.** | **Course Code** | **Course Title** | **Pre-req** | **Cr. Hrs.** |
| CC1011w | Introduction to Computing |  | 4  (3+1) | CC1111w | Programming Fundamentals | CC1011w (ITC) | 4  (3+1) |
| PH121 | Basic Electronics |  | 4  (3+1) | CC 1311w | Discrete Structures |  | 3 |
| MA107 | Calculus and Analytical Geometry |  | 3 | EN201 | Communication skills | Eng I | 3 |
| EN104 | Functional English |  | 3 | MA103 | Supporting Elective-I (e.g., Calculus II) |  | 3 |
| HM150 | Islamic Studies |  | 3 |  | GE/University Elective-I |  | 3 |
|  | **Semester Total** |  | **17** |  | **Semester Total** |  | **16** |

**Semester 3 Semester 4**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **Pre-req** | **Cr. Hrs.** | **Course Code** | **Course Title** | **Pre-req** | **Cr. Hrs.** |
| CC2211w | Digital Logic and Design | PH121(BE) | 4  (3+1) | CC2711w | Software Engineering | CC2111w(OOP) | 3 |
| CC2111w | Object Oriented Programming | CC1111w(PF) | 4  (3+1) | MA230 | Supporting Elective-II (e.g., Differential Equation) |  | 3 |
| MA210 | Linear Algebra |  | 3 | CC2411w | Data Structures and Algorithms | CC 2111w (OOP) | 4  (3+1) |
| MA150 | Probability and Statistics |  | 3 | CC2421w | Introduction to Database Systems | CC1311w (DS) | 4  (3+1) |
|  | GE/University Elective II |  | 3 | EN325 | Technical Report Writing |  | 3 |
|  | **Semester Total** |  | **17** |  | **Semester Total** |  | **17** |

**Semester 5 Semester 6**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **Pre-req** | **Cr. Hrs.** | **Course Code** | **Course Title** | **Pre-req** | **Cr. Hrs.** |
| SE3721w | Object Oriented Software Engineering (Software Construction) | CC2111w, CC2711w (OOP,SE) | 4  (3+1) | SE3741w | Software Verification and Validation (SQT) | CC2711w (SE) | 3 |
| SE3731w | Software Requirement and Specifications | CC2711w (SE) | 3 | SE3751w | Software Architecture and Design | CC2711w (SE) | 3 |
| CC3021w | Operating Systems | CC2411w (DSA) | 4  (3+1) | CC3611w | Computer and Communication Networks | CC2211w (DLD) | 4  (3+1) |
|  | SE Elective I | CC2711w (SE) | 3 |  | SE Elective II | CC2711w (SE) | 3 |
| SE310 | Supporting Elective III (e.g.Analysis of Algorithm) |  | 3 |  | SE Elective-III | CC2711w (SE) | 3 |
|  |  |  |  |  | SE Elective IV | CC2711w (SE) | 3 |
|  | **Semester Total** |  | **17** |  | **Semester Total** |  | **19** |

**Semester 7 Semester 8**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course Title** | **Pre-req** | **Cr. Hrs.** | **Course Code** | **Course Title** | **Pre-req** | **Cr. Hrs.** |
| CC4981w | Final Year Project-I |  | 3 | CC4991w | Final Year Project-II | CC 4981w (FYP-I) | 3 |
| SE3761w | Software Project Management | CC2711w(SE) | 3 |  | GE/University Elective III |  | 3 |
| CC3041w | Human Computer Interaction | CC2711w(SE) | 3 |  | GE/University Elective IV |  | 3 |
|  | SE Elective-V | CC2711w(SE) | 3 |  | Professional Practices |  | 3 |
|  | SE Elective-VI | CC2711w(SE) | 3 |  | SE Elective-VII | CC2711w (SE) | 3 |
| SS171 | Pakistan Studies |  | 3 |  |  |  |  |
|  | **Semester Total** |  | **18** |  | **Semester Total** |  | **15** |