**BACHELOR OF COMPUTER SCIENCE (BCS)**

**PROGRAM LENGTH**

Duration: 04 years

Semesters: 08

Maximum Credit Hrs. 133

**ENTRY REQUIREMENTS (Eligibility Criteria)**

* ICS/F.Sc. Pre-Engg/ / DAE / F.Sc. Pre-Medical with Additional Maths.
* At least 45% Marks in academics; and 40 score in Entry Test.

**ANNUAL INTAKE**

There are 40 places available annually.

**Course Structure**

|  |  |  |  |
| --- | --- | --- | --- |
| **1stSemesters** | | | |
| **S.No** | **Course Title** | **Credit Hrs.** | **1st year** |
|  | Introduction to Information and Communication Technologies | 3 (2,1) |
|  | Calculus & Analytical Geometry | 3 (3,0) |
|  | Basic Electronics | 3 (2,1) |
|  | English Composition & Comprehension | 3 (3,0) |
|  | Programming Fundamentals | 3 (2,1) |
| **2ndSemesters** | | |
|  | Object Oriented Programming | 3 (2,1) |
|  | Discrete Structures | 3 (3,0) |
|  | Technical and Business Writing | 3 (3,0) |
|  | Web Fundamentals | 3 (2,1) |
|  | Pakistan Studies / Islamic studies | 3 (3,0) |
| **3rdSemesters** | | | **2nd year** |
|  | Digital Logic Design | 3 (2,1) |
|  | Probability and Statistics | 3 (3,0) |
|  | Data Structures | 3 (2,1) |
|  | Communication Skills | 3 (3,0) |
|  | Linear Algebra | 3 (3,0) |
|  | Operating Systems | 3 (2,1) |
| **4thSemesters** | | |
|  | Analysis of Algorithms | 3 (3,0) |
|  | Web Engineering | 3 (2,1) |
|  | Multivariate Calculus | 3 (3,0) |
|  | Computer Organization and Assembly Language Programming | 3 (2,1) |
|  | Visual Programming | 3 (3,1) |
|  | Numerical Computing | 3 (3,1) |
| **5th Semesters** | | | **3rd year** |
|  | Database – I | 3 (2,1) |
|  | Theory of Automata & Formal Languages | 3 (3,0) |
|  | Differential Equations | 3 (3,0) |
|  | Data Communication | 3 (2,0) |
|  | Human Resource Management | 3 (3,0 |
| **6th Semesters** | | |
|  | Compiler Construction | 3 (3,0) |
|  | Computer Networks | 3(3,0) |
|  | Computer Architecture | 3 (2,1) |
|  | Compiler Construction | 3(2,1) |
|  | Database-II | 3 (2,1) |
|  | Human Computer Interaction | 3 (2,1) |
| **7thSemester** | | | **4th year** |
| **Compulsory** | | |
|  | Network and System Programming | 3 (2,1) |
|  | Professional Practices | 3 (3,0) |
|  | Software Engineering-II | 3 (3,0) |
|  | Software Project-I | 3 (2,1) |
| **Elective(Any Two)** | | |
|  | Digital Signal Processing | 3 |
|  | Wireless Networks | 3(2,1) |
|  | Data Mining and Data Warehousing | 3(3,0) |
|  | Management Information System | 3(3,0) |
|  | Parallel and Distributed Computing | 3(3,0) |
| **8th Semesters** | | |
| **Compulsory** | | |
|  | Artificial Intelligence | 3 (2,1) |
|  | Computer Graphics | 3 (2,1) |
|  | Advance DataBase System | 3(2,1) |
|  | Software Project-II | 3 |
| **Elective (Any Two)** | | |
|  | Digital Image Processing | 3(2,1) |
|  | Data and Network Security | 3(3,0) |
|  | Modeling and Simulation | 3(2,1) |
|  | Database Administration | 3(2,1) |
|  | Telecommunication systems | 3(3,0) |
|  | Multimedia Technologies | 3(3,0) |

**Note:**

**1.** Only those elective courses will be offered whose teaching staff will be available.

**2.** Students can select any of the two offered elective courses of their choice.

**3.** Only those elective courses will be offered whose students’ strength will be 10 or above.

(The courses and semester plan can be modified subject to the decision of board of studies.)

**MASTER OF COMPUTER SCIENCE (MCS)**

**PROGRAM LENGTH**

Duration: 02 years

Semesters: 04

Maximum Credit Hrs. 69

**ENTRY REQUIREMENTS (Eligibility Criteria)**

* B.Sc. Computer Science/B.Sc. with Math-A
* At least 45% Marks in Academics; and 40 score in Entry Test

**ANNUAL INTAKE**

There are 40 places available annually.

**Course Structure**

|  |  |  |  |
| --- | --- | --- | --- |
| **1st Semester** | | | **1st year** |
| **S.No** | **Course Title** | **Credit Hrs.** |
|  | Object Oriented Programming | 3 |
|  | Introduction to Information and Communication Technologies | 3 |
|  | Digital logic and Design | 3 |
|  | Data Communication | 3 |
|  | Technical and Business Writing | 3 |
| **2nd Semester** | | |
|  | Data Structures | 3 |
|  | Computer Networks | 3 |
|  | Web Fundamentals | 3 |
|  | Software Engineering-I | 3 |
|  | Data base –I | 3 |
|  | Computer Architecture | 3 |
| **3rd Semester** | | | **2ndyear** |
|  | Operating System Concepts | 3 |
|  | Analysis of Algorithms | 3 |
|  | Web Engineering | 3 |
|  | Theory of Automata and Formal languages | 3 |
|  | Artificial Intelligence | 3 |
|  | Data Base-II | 3 |
| **4th Semester** | | |
|  | Visual Programming | 3 |
|  | Computer Graphics | 3 |
|  | Software Engineering-II | 3 |
|  | Masters Project | 3 |

**Note:** The University reserves the right to change the course structure displayed here at any time during the academic year without prior notice.