

Study Plan of BE (Computer System Engineering)

Curriculum

1st Semester 1st Year

| S.no | Course Code | Subject | Credit Hours | | | |
|------|-------------|--------------------------------|--------------|----------|-----------|----------------|
| | | | Th | Lab | Total | |
| 1 | HUM-1001 | Functional English | 3 | 0 | 3 | Humanities |
| 2 | HUM-1002 | Pakistan Studies | 2 | 0 | 2 | Humanities |
| 3 | BS-1003 | Calculus & Analytical Geometry | 3 | 0 | 3 | Basic Sciences |
| 4 | CSE-1501 | Computing Fundamentals | 3 | 1 | 4 | Computing |
| 5 | BS-1004 | Applied Physics | 3 | 1 | 4 | Basic Sciences |
| | | Total | 14 | 2 | 16 | |

2nd Semester 1st Year

| S.no | Course Code | Subject | Credit Hours | | | |
|------|-------------|---------------------------------|--------------|----------|-----------|----------------|
| | | | Th | Lab | Total | |
| 1 | BS-1005 | Linear Algebra | 3 | 0 | 3 | Basic Sciences |
| 2 | HUM-1006 | Islamic Studies/Ethics | 2 | 0 | 2 | Humanities |
| 3 | CSE-1101 | Basic Electronics & Circuits | 3 | 1 | 4 | Foundation |
| 4 | CSE-1102 | Engineering Workshop | 0 | 1 | 1 | Foundation |
| 5 | CSE-1502 | Computer Programming Principles | 3 | 1 | 4 | Computing |
| 6 | HUM-1007 | Communication Skills | 3 | 0 | 3 | Humanities |
| | | Total | 14 | 3 | 17 | |

3rd Semester 2nd Year

| S.no | Course Code | Subject | Credit Hours | | | |
|------|-------------|------------------------------------|--------------|----------|-----------|----------------|
| | | | Th | Lab | Total | |
| 1 | BS-2008 | Differential Equation | 3 | 0 | 3 | Basic Sciences |
| 2 | CSE-2103 | Digital Logic Design | 3 | 1 | 4 | Foundation |
| 3 | CSE-2104 | Data Structures & Algorithms | 3 | 1 | 4 | Foundation |
| 4 | CSE-2105 | Object Oriented Programming | 3 | 1 | 4 | Foundation |
| 5 | CSE-2106 | Computer Aided Engineering Drawing | 0 | 1 | 1 | Foundation |
| | | Total | 12 | 4 | 16 | |

4th Semester 2nd Year

| S.no | Course Code | Subject | Credit Hours | | | |
|------|-------------|--------------------------------------|--------------|----------|-----------|---------------------------------------|
| | | | Th | Lab | Total | |
| 1 | BS-2009 | Complex Variable & Transform | 3 | 0 | 3 | Basic Sciences |
| 2 | HUM-2601 | Engineering Economics & Management | 3 | 0 | 3 | Humanities/ Management Sciences |
| 3 | CSE-2401 | Electrical Network Analysis | 3 | 1 | 4 | IDEE |
| 4 | CSE-2201 | Computer Architecture & Organization | 3 | 0 | 3 | Breadth |
| 5 | CSE-2202 | Database Management System | 3 | 1 | 4 | Breadth |
| | | Total | 15 | 2 | 17 | |

5th Semester 3rd Year

| S.no | Course Code | Subject | Credit Hours | | | |
|------|-------------|------------------------------------|--------------|----------|-----------|----------------|
| | | | Th | Lab | Total | |
| 1 | CSE-3203 | Operating Systems | 3 | 1 | 4 | Breadth |
| 2 | CSE-3107 | Signals & Systems | 3 | 1 | 4 | Foundation |
| 3 | BS-3010 | Probability & Statistics | 3 | 0 | 3 | Basic Sciences |
| 4 | CSE-3204 | Web Engineering | 2 | 1 | 3 | Breadth |
| 5 | CSE-3108 | Microprocessor Based System Design | 3 | 1 | 4 | Foundation |
| | | Total | 14 | 4 | 18 | |

6th Semester 3rd Year

| S.no | Course Code | Subject | Credit Hours | | | |
|------|-------------|--|--------------|----------|-----------|------------|
| | | | Th | Lab | Total | |
| 1 | CSE-3205 | Data Communication and Computer Networks | 3 | 1 | 4 | Breadth |
| 2 | CSE-3206 | Software Engineering | 3 | 1 | 4 | Breadth |
| 3 | CSE-3207 | Digital System Design | 3 | 1 | 4 | Breadth |
| 4 | CSE-342 | Digital Signal Processing | 2 | 1 | 3 | IDEE |
| 5 | HUM – 3011 | Technical Report Writing | 3 | 0 | 3 | Humanities |
| | | Total | 14 | 4 | 18 | |

7th Semester 4th Year

| S.no | Course Code | Subject | Credit Hours | | | |
|------|-------------|--|--------------|----------|-----------|---------------------------------------|
| | | | Th | Lab | Total | |
| 1 | CSE-43xx | Depth Elective-I | 3 | 0 | 3 | Depth |
| 2 | CSE-4208 | Computer Network Security | 2 | 1 | 3 | Breadth |
| 3 | CSE-4209 | Artificial Intelligence | 3 | 1 | 4 | Breadth |
| 4 | HUM-4602 | Project Management & Technopreneurship | 3 | 0 | 3 | Humanities/ Management Sciences |
| 5 | CSE-499 | Final Year Project-I | 0 | 3 | 3 | Project Design |
| | | Total | 11 | 5 | 16 | |

8th Semester 4th Year

| S.no | Course Code | Subject | Credit Hours | | | |
|------|-------------|---------------------------------|--------------|-----------|------------|----------------|
| | | | Th | Lab | Total | |
| 1 | CSE-43xx | Depth Elective-II | 3 | 0 | 3 | Depth |
| 2 | CSE-4301 | Mobile & Wireless Communication | 3 | 1 | 4 | Depth |
| 3 | CSE-43xx | Depth Elective-III | 3 | 1 | 4 | Depth |
| 4 | HUM-4012 | Professional Ethics | 3 | 0 | 3 | Humanities |
| 5 | CSE-499 | Final Year Project-II | 0 | 3 | 3 | Project Design |
| | | Total | 12 | 5 | 17 | |
| | | GRAND TOTAL | 106 | 29 | 135 | |

ELECTIVE COURSES (DEPTH-03+00)

| S.no | Course Code | Subject | Credit Hours | | |
|---------------------------------------|-------------|--------------------------------------|--------------|-----|-------|
| | | | Th | Lab | Total |
| 1. | CSE-4302 | Parallel & Distributed Computing | 3 | 0 | 3 |
| 2. | CSE-4303 | Human Computer Interfacing | 3 | 0 | 3 |
| 3. | CSE-4304 | Data Science & Analytics | 3 | 0 | 3 |
| 4. | CSE-4305 | Information System | 3 | 0 | 3 |
| 5. | CSE-4306 | Network Planning & Management | 3 | 0 | 3 |
| 6. | CSE-4307 | Software Project Management | 3 | 0 | 3 |
| 7. | CSE-4308 | Software Quality Assurance & Testing | 3 | 0 | 3 |
| 8. | CSE-4309 | Software Architecture & Engineering | 3 | 0 | 3 |
| ELECTIVE COURSES (DEPTH-03+01) | | | | | |
| | | | Th | Lab | Total |
| 9. | CE-4310 | Visual Programming | 3 | 1 | 4 |
| 10. | CE-4311 | Android Applications & Development | 3 | 1 | 4 |
| 11. | CE-4312 | Embedded Systems | 3 | 1 | 4 |
| 12. | CE-4313 | VLSI Design Technique | 3 | 1 | 4 |