|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BACHELORS IN ARTIFICIAL INTELLIGENCE-BS(AI)** | | | | | | | |
| **Structure of BS(AI) Programs** Total Credit Hours: 136 Total Courses: 44 Semesters: 8 Duration: 4 Years | | | |  | | |  |
| **SCHEME OF STUDIES** | | | | | | | |
|  |  |  |  | | |  |  |
| **S #** | **COURSE CODES** | **CLASS** | **COURSE TITLE** | **CREDIT HOURS** | **PRE-REQ** | **CO-REQ** |  |
| **SEMESTER 1** | | | | | | |  |
| 1 | CMC111 | CORE | PROGRAMMING FUNDAMENTALS | 3 + 0 | - | CMC111-L |  |
|  | CMC111-L | CORE | PROGRAMMING FUNDAMENTALS (Lab) | 0 + 1 |  |  |  |
| 2 | GER111 | GER | APPLICATION OF INFORMATION & COMMUNICATION TECHNOLOGIES | 2 + 0 | - | GER111-L |  |
|  | GER111-L | GER | APPLICATION OF INFORMATION & COMMUNICATION TECHNOLOGIES (Lab) | 0 + 1 |  |  |  |
| **3** | **GER152** | **GER** | **NATURAL SCIENCE (APPLIED PHYSICS)** | **2 + 0** | **-** | **GER152-L** |  |
|  | **GER152-L** | **GER** | **NATURAL SCIENCE (APPLIED PHYSICS (Lab))** | **0 + 1** |  |  |  |
| 4 | GER131 | GER | CALCULUS AND ANALYTIC GEOMETRY | 3 + 0 | - |  |  |
| 5 | GER121 | GER | FUNCTIONAL ENGLISH | 3 + 0 | - |  |  |
|  |  |  |  | **13+3(16)** |  |  |  |
| **SEMESTER 2** | | | | | | |  |
| 1 | CMC112 | CORE | OBJECT ORIENTED PROGRAMMING | 3 + 0 | CMC111 | CMC112-L |  |
|  | CMC112-L | CORE | OBJECT ORIENTED PROGRAMMING (Lab) | 0 + 1 | CMC111-L |  |  |
| 2 | GER132 | GER | DISCRETE STRUCTURES | 3 + 0 | GER131 |  |  |
| **3** | **CMC122** | **CORE** | **DIGITAL LOGIC DESIGN** | **2 + 0** | **GER152** | **CMC122-L** |  |
|  | **CMC122-L** | **CORE** | **DIGITAL LOGIC DESIGN (Lab)** | **0 + 1** | **GER152-L** |  |  |
| 4 | GER142 | GER | IDEOLOGY AND CONSTITUTION OF PAKISTAN | 2 + 0 | - |  |  |
| 5 | GER122 | GER | EXPOSITORY WRITING | 3 + 0 | GER121 |  |  |
| 6 | MTE111 | MATHS | MULTIVARIABLE CALCULUS | 3 + 0 | GER131 |  |  |
|  |  |  |  | **16+2(18)** |  |  |  |
| **SEMESTER 3** | | | | | | |  |
| 1 | CMC251 | CORE | DATA STRUCTURES | 3 + 0 | CMC112 | CMC251-L |  |
|  | CMC251-L | CORE | DATA STRUCTURES (Lab) | 0 + 1 | CMC112-L |  |  |
| 2 | CMC222 | CORE | COMPUTER ORGANIZATION & ASSEMBLY LANGUAGE | 3 + 0 | **CMC122** | CMC222-L |  |
|  | CMC222-L | CORE | COMPUTER ORGANIZATION & ASSEMBLY LANGUAGE (Lab) | 0 + 1 | **CMC122-L** |  |  |
| 3 | AIC211 | DOMAIN CORE | ARTIFICIAL INTELLIGENCE | 2+ 0 | CMC112 | AIC211-L |  |
|  | AIC211-L | DOMAIN CORE | ARTIFICIAL INTELLIGENCE (Lab) | 0+ 1 | CMC112-L |  |  |
| 4 | CMC261 | CORE | COMPUTER NETWORKS | 3 + 0 | **CMC122** | CMC261-L |  |
|  | CMC261-L | CORE | COMPUTER NETWORKS (Lab) | 0 + 1 | **CMC122-L** |  |  |
| 5 | MTE212 | MATHS | PROBABILITY & STATISTICS | 3 + 0 | MTE111 |  |  |
|  |  |  |  | **14+4(18)** |  |  |  |
| **SEMESTER 4** | | | | | | |  |
| 1 | CMC241 | CORE | OPERATING SYSTEMS | 3 + 0 | CMC251 | CMC241-L |  |
|  | CMC241-L | CORE | OPERATING SYSTEMS(Lab) | 0 + 1 | CMC251-L |  |  |
| 2 | AIC212 | DOMAIN CORE | PROGRAMMING FOR AI | 2 + 0 | AIC211 | AIC212-L |  |
|  | AIC212-L | DOMAIN CORE | PROGRAMMING FOR AI (Lab) | 0 + 1 | AIC211-L |  |  |
| 3 | MTE213 | MATH | LINEAR ALGEBRA | 3 + 0 | MTE111 |  |  |
| 4 | CMC252 | CORE | ANALYSIS OF ALGORITHMS | 3 + 0 | CMC251 |  |  |
| 5 | MTE221 | GER | TECHNICAL & BUSINESS WRITING | 3 + 0 | GER122 |  |  |
| 6 | GERXXX | GER | SOCIAL SCIENCES (ELECTIVE I) | 2 + 0 | GER122 |  |  |
|  |  |  |  | **16+2(18)** |  |  |  |
| **SEMESTER 5** | | | | | | |  |
| 1 | CMC371 | CORE | SOFTWARE ENGINEERING | 3 + 0 | CMC252 |  |  |
| 2 | CMC362 | CORE | INFORMATION SECURITY | 3 + 0 | CMC261 | CMC362-L |  |
|  | CMC362-L | CORE | INFORMATION SECURITY (Lab) | 0 + 1 | CMC261-L |  |  |
| 3 | CMC331 | CORE | DATABASE SYSTEMS | 3 + 0 | CMC241 | CMC331-L |  |
|  | CMC331-L | CORE | DATABASE SYSTEMS (Lab) | 0 + 1 | CMC241-L |  |  |
| 4 | CSEXXX | DOMAIN ELEC | DOMAIN ELECTIVE 1 | 3 + 0 | - |  |  |
| 5 | AIC221 | DOMAIN CORE | INTRODUCTION TO MACHINE LEARNING | 2 + 0 | AIC211 | AIC221-L |  |
|  | AIC221-L | DOMAIN CORE | INTRODUCTION TO MACHINE LEARNING (Lab) | 0 + 1 | AIC211-L |  |  |
|  |  |  |  | **14+3(17)** |  |  |  |
| **SEMESTER 6** | | | | | |  |  |
| 1 | AIC322 | DOMAIN CORE | ARTIFICIAL NEURAL NETWORKS & DEEP LEARNING | 3 + 0 | AIC221 | AIC322-L |  |
|  | AIC322-L | DOMAIN CORE | ARTIFICIAL NEURAL NETWORKS & DEEP LEARNING (Lab) | 0 + 1 | AIC221-L |  |  |
| 2 | AIE423 | DOMAIN CORE | COMPUTER VISION | 2 + 0 | AIC221/ AIC211 | AIE423-L |  |
|  | AIE423-L | DOMAIN CORE | COMPUTER VISION (Lab) | 0 + 1 | AIC221-L/ AIC211-L |  |  |
| 3 | CSEXXX | DOMAIN ELEC | DOMAIN ELECTIVE 2 | 2 + 1 | - |  |  |
| 4 | ESCXXX | GER | SOCIAL SCIENCE II | 3 + 0 | - |  |  |
| 5 | AIC331 | DOMAIN CORE | KNOWLEDGE REPRESENTATION & REASONING | 2 + 0 | CMC331 | AIC331-L |  |
|  | AIC331-L | DOMAIN CORE | KNOWLEDGE REPRESENTATION & REASONING (Lab) | 0 + 1 | CMC331-L |  |  |
| **6** | **GER141** | **GER** | **ISLAMIC STUDIES** | **2 + 0** | **-** |  |  |
|  |  |  |  | **14+4(18)** |  |  |  |
| **SEMESTER 7** | | | | | |  |  |
| 1 | CMC491 | CORE | FINAL YEAR PROJECT - I | 0 + 3 | CMC371 / AIC322 |  |  |
| 2 | CSEXXX | DOMAIN ELEC | DOMAIN ELECTIVE 3 | 2 + 1 | - |  |  |
| 3 | CSEXXX | DOMAIN ELEC | DOMAIN ELECTIVE 4 | 2 + 1 | - |  |  |
| 4 | CSEXXX | DOMAIN ELEC | DOMAIN ELECTIVE 5 | 2 + 1 | - |  |  |
| 5 | CMC442 | CORE | PARALLEL & DISTRIBUTED COMPUTING | 3 + 0 | CMC241 | CMC442-L |  |
|  | CMC442-L | CORE | PARALLEL & DISTRIBUTED COMPUTING (Lab) | 0 + 1 | CMC241-L |  |  |
| 6 | GER462 | GER | TECHNOPRENEURSHIP | 2 + 0 | - |  |  |
|  |  |  |  | **11+7(18)** |  |  |  |
| **SEMESTER 8** | | | | | |  |  |
| 1 | CMC492 | CORE | FINAL YEAR PROJECT - II | 0 + 3 | CMC491 |  |  |
| 2 | GER463 | GER | PROFESSIONAL PRACTICES | 2 + 0 | - |  |  |
| 3 | GER443 | GER | CIVICS AND COMMUNITY ENGAGEMENT | 2 + 0 | - |  |  |
| 4 | CSEXXX | DOMAIN ELEC | DOMAIN ELECTIVE 6 | 2 + 1 | - |  |  |
| 5 | CSEXXX | DOMAIN ELEC | DOMAIN ELECTIVE 7 | 2 + 1 | - |  |  |
|  |  |  |  | **8+5(13)** |  |  |  |
|  |  |  | **TOTAL CREDIT HOURS** | **136** |  |  |  |
| *\*\*Campus will decide to offer a course.* | | | | | | |  |