**United** International **University**

**MSCSE (Syllabus 4)**

**Please read the instructions carefully. If any confusion rises, contact to the MSCSE Coordinator.**

* ***Course Group:*** Required to take 36 credits hours. At least Five (05) or more courses from a particular area will constitute a major in that area.
* ***Project Group:*** At least Four (04) or more courses from a particular area will constitute a major in that area.
* ***Thesis Group:*** No major for Thesis Group
* Since **Embedded System** area is comprised of 04) courses only, no major could be offered in that area.
* Also, course taken from **Miscellaneous Group** will not be counted as Major Group.

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| **Course Code** | **Title** | **Credits** |
| 1. **Prerequisite Courses** | | |
| CSE 5001 | Object Oriented Programming | 3.0 |
| CSE 5003 | Data Structure and Algorithms | 3.0 |
| CSE 5005 | Database Management Systems | 3.0 |
| CSE 5007 | Software Engineering and Application Development | 3.0 |
| CSE 5009 | Data Communication and Computer Network | 3.0 |
| CSE 5011 | Microprocessor and Interfacing | 3.0 |
| CSE 5013 | System Analysis and Design | 3.0 |
| CSE 5015 | Signals and Linear Systems | 3.0 |
| CSE 5017 | Engineering Electromagnetics | 3.0 |
| CSE 5019 | Structured Programming Language | 3.0 |
| MATH 187 | Fourier and Laplace Transformation | 3.0 |
| 1. Required Courses (Any Six for thesis group / Any Ten for non-thesis group) | | |
| Software Engineering: | | |
| CSE 6001 | Advanced Database Systems | 3.0 |
| CSE 6003 | Software Quality Management | 3.0 |
| CSE 6005 | Object Oriented Analysis and Design | 3.0 |
| CSE 6007 | Design and Development of Open Multi-tier Application | 3.0 |
| CSE 6029 | Computer Graphics and Animation | 3.0 |
| CSE 6031 | Interactive Multimedia Design and Development | 3.0 |
| CSE 6033 | Distributed Systems | 3.0 |
| CSE 6035 | Client Server Technologies | 3.0 |
| CSE 6037 | Electronic Commerce | 3.0 |
| CSE 6039 | Web Programming | 3.0 |
| CSE 6041 | Parallel Algorithms | 3.0 |
| CSE 6085 | Project Management | 3.0 |
| CSE 6087 | Advanced Object Oriented Programming | 3.0 |
| CSE 6095 | Web Engineering | 3.0 |
| CSE 6135 | Semantic Web Theory and Applications | 3.0 |
| CSE 6143 | Smart Phone Application Development | 3.0 |
| CSE 6145 | Cloud Computing | 3.0 |
| CSE 6147 | Software Project Management | 3.0 |
| CSE 6149 | Software Quality Assurance and Testing | 3.0 |
| CSE 6151 | Computer Game Design and Development | 3.0 |
| CSE 6155 | Enterprise Software Architecture and Development | 3.0 |
| CSE 6157 | Models of Software Systems | 3.0 |
| CSE 6159 | Software Specifications and Analysis | 3.0 |
| CSE 6165 | Information Technology Audit and Assessment | 3.0 |
| **Intelligent Computing:** | | |
| CSE 6009 | Advanced Artificial Intelligence | 3.0 |
| CSE 6011 | Data Mining | 3.0 |
| CSE 6013 | Computational Linguistics | 3.0 |
| CSE 6015 | Statistical Machine Translation | 3.0 |
| CSE 6017 | Speech Processing | 3.0 |
| CSE 6019 | Speech Recognition | 3.0 |
| CSE 6021 | Pattern Recognition | 3.0 |
| CSE 6023 | Machine Learning | 3.0 |
| CSE 6025 | Neural Network and Fuzzy Logic System | 3.0 |
| CSE 6027 | Image Processing | 3.0 |
| CSE 6105 | Health Informatics and Telemedicine | 3.0 |
| CSE 6113 | Data Warehousing and Business Intelligence | 3.0 |
| CSE 6115 | Financial Informatics | 3.0 |
| CSE 6131 | Computational Intelligence | 3.0 |
| CSE 6153 | Bio-informatics and Computational Biology | 3.0 |
| CSE 6171 | Image Processing and its Applications | 3.0 |
| **Embedded System:** | | |
| CSE 6045 | Embedded System Design | 3.0 |
| CSE 6047 | Advanced Embedded System Design | 3.0 |
| CSE 6049 | Real Time Computing for Embedded System | 3.0 |
| CSE 6071 | Advanced VLSI Design | 3.0 |
| **Communication Engineering:** | | |
| CSE 6033 | Distributed Systems | 3.0 |
| CSE 6035 | Client Server Technologies | 3.0 |
| CSE 6037 | Electronic Commerce | 3.0 |
| CSE 6051 | Tele-traffic Theory and Management | 3.0 |
| CSE 6053 | Radio Frequency Technology | 3.0 |
| CSE 6055 | Digital Communications | 3.0 |
| CSE 6057 | Wireless Communication | 3.0 |
| CSE 6059 | Multimedia Communication | 3.0 |
| CSE 6061 | Advanced Optical Communication | 3.0 |
| CSE 6063 | Mobile Systems | 3.0 |
| CSE 6065 | Advanced Mobile Communication | 3.0 |
| CSE 6067 | Advanced Network Services and Management | 3.0 |
| CSE 6069 | Digital Signal Processing | 3.0 |
| CSE 6073 | Communication Theory | 3.0 |
| CSE 6075 | Satellite Communication | 3.0 |
| CSE 6077 | Mobile Communication | 3.0 |
| CSE 6079 | Optical Communication | 3.0 |
| CSE 6081 | Telecommunication Engineering | 3.0 |
| CSE 6083 | Advanced Digital Communication | 3.0 |
| CSE 6089 | Advanced Computer Communications and Networks | 3.0 |
| CSE 6091 | Cryptography | 3.0 |
| CSE 6095 | Web Engineering | 3.0 |
| CSE 6119 | Mobile Computing | 3.0 |
| CSE 6121 | Ad-hoc and Sensor Networks | 3.0 |
| CSE 6123 | Wireless Resource Management | 3.0 |
| CSE 6125 | Internet Architecture and Protocols | 3.0 |
| CSE 6127 | Networks Security | 3.0 |
| CSE 6145 | Cloud Computing | 3.0 |
| **Miscellaneous:** | | |
| CSE 6041 | Parallel Algorithms | 3.0 |
| CSE 6043 | Graph Theory | 3.0 |
| CSE 6093 | Research Methodologies and Technical Writing | 3.0 |
| CSE 6141 | Computational Geometry | 3.0 |
| CSE 6163 | Geographic Information Systems and Spatial Databases | 3.0 |
| CSE 6167 | Special Topic-I | 3.0 |
| CSE 6169 | Special Topic-II | 3.0 |
| 1. **Project and Thesis** | | |
| CSE 6000 | Thesis | 18.00 |
| CSE 6000 | Project | 6.00 |
| **Degree Requirements** | | 36.00 |