

MSC COMPUTER SCIENCE – COURSE OUTCOMES

Semester I

Paradigm of programming languages(Subject code MS11901)

- develop an in-depth understanding of functional, logic, and object-oriented languages.
- analyze semantic issues associated with function implementations, including variable binding, scoping rules, parameter passing, and exception handling in different programming languages.
- be familiar with design issues of object-oriented and functional languages.
- be familiar with language abstraction constructs of classes, interfaces, packages, and procedures.
- understand and write programs in the Scala programming language.

Design and Analysis of Algorithms(Subject Code: MS11902)

- Understand different design strategies
- Understand the use of data structures in improving algorithm performance
- Understand classical problem and solutions
- Learn a variety of useful algorithms
- Understand classification of problems

Database Technologies (Subject Code:MS11903)

- Understand the core concepts of NoSQL.
- Define, compare and use the four types of NoSQL Databases-Document-oriented, Key Value Pairs, Column-oriented and Graph.
- Demonstrate an understanding of the detailed architecture, define objects, load data, query data and performance tune Column-oriented NoSQL databases.
- Explain the detailed architecture, define objects, load data, query data and performance tune Document-oriented NoSQL databases through the practical assignment.
- Demonstrate an understanding of the detailed architecture, define objects, load data, query data and performance tune Key-Value Pair NoSQL databases through the practical assignment.
- Explain the detailed architecture, define objects, load data, query data and performance tune Graph NoSQL databases through the practical assignment.
- Perform hands-on NoSql database lab assignments that will allow students to use the four MongoDB, Neo4J.

PPL and Database Technologies Practical (Subject Code: MS11904)

- Understand the features of SCALA language with different object- oriented features
- Acknowledge the functional programming with SCALA
- Learn to design Schema using Advanced Queries and CRUD operations using MongoDB
- Use mongoDB Aggregation framework

Artificial Intelligence & Practical(Subject Code: MSE11905)(Elective)

- learn various types of algorithms useful in Artificial Intelligence (AI).
- convey the ideas in AI research and programming language related to emerging technology.
- understand the numerous applications and huge possibilities in the field of AI that goes beyond the normal human imagination.

Web Services & Practical (Subject Code: MSE11906) (Elective)

- To Understand Web Services technologies and implementation model for SOA
- To implement web Services.
- To understand and implement RESTful system.

Semester II:**Advanced Operating System(Subject Code: MS21901)**

- learn Advanced Operating Systems Concepts using Unix/Linux and Windows as representative examples.
- Most Units start with the theory and then switches focus on how the concepts are implemented in a C program.
- This course describes the programming interface to the Unix/Linux system - the system call interface.
- It concludes with an overview of Windows Threads Management, an understanding of the functions of Operating Systems. It also provides provide an insight into functional modules of Operating Systems.
- The concepts underlying in the design and implementation of Operating Systems.

Mobile Technologies(Subject Code:MS21902)

- Apply the fundamental design paradigms and technologies to mobile computing applications.
- Develop consumer and enterprise mobile applications using representative mobile devices and platforms using modern development methodologies.
- Design effective mobile interfaces using human computer interaction principles.

- Appraise the quality and performance of mobile applications.
- Synthesize new knowledge in the area of mobile computing by using appropriate research methodologies and techniques.
- gain knowledge of installing Android Studio and Cross Platform Integrated Development Environment.
- use the techniques, skills, and modern technology.
- develop high levels of technical competence in the field of mobile technology.

Software Project Management: (Subject Code:MS21903)

- acquire the skills required to ensure successful medium and large-scale software projects.
- examine Requirements Elicitation, Project Management, Verification and Validation and Management of Large Software Engineering Projects.
- Use the project management techniques for process modeling, planning, estimation, process metrics and risk management
- perform software verification and validation using inspections, design and execution of system test cases.

Practical on Advanced OS and Mobile Technologies(Subject Code: MS21904)

Learner would be able to,

- develop and analyze simple concurrent programs using transactional memory and message passing, and to understand the trade-offs and implementation decision
- gain knowledge of installing Android Studio and Cross Platform Integrated Development Environment.
- use the techniques, skills, and modern technology.
- develop the different applications that mobile computing offers to people, employees, and businesses
- develop high levels of technical competence in the field of mobile technology.

Cloud Computing (Subject Code: MSE21905)

- articulate the main concepts, key technologies, strengths, and limitations of cloud computing and the possible applications for cloud computing
- identify the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud, etc.
- explain the core issues of cloud computing such as security, privacy, and interoperability.
- identify problems, and analyze, evaluate various cloud computing solutions according to the applications used.
- Create and deploy a cloud using google, Amazon, cloud platform.

Project (Subject Code: MSE21906)

- develop an application based on new technology such as PHP, JAVA, Android, Python etc

Semester III**Software Architecture and Design Patterns (Subject Code:MS32001)**

- Understand how to add functionality to designs while minimizing complexity.
- Interpret the code qualities required to maintain code flexible
- Analyze the common design patterns
- Explore the appropriate patterns for design problems

Machine learning(Subject Code:MS32002)

- Recognized the characteristics of machine learning
- Able to estimate machine learning model efficiency using suitable metrics
- Evaluate real world problems using different machine learning techniques
- Able to process data using python libraries and predict the outcome using machine learning algorithms
- Develop an ability to build machine learning model

Web Frameworks(Subject Code: MS32003)

- Introduce students for modern web technologies which is used widely in Industry as a part of full stack developer.
- Learn and use server-side programming using Node.js
- Understand asynchronous programming.
- Build and deploy robust Django Web App
- Know the powerful way to develop the web application in Python.
- Integrate with Restful web services.

Practical on Software Architecture & Design Pattern, Web frameworks and Machine learning (Subject Code: MS32004)

- identify the appropriate design patterns to solve object-oriented design problems.
- design an application using Pattern Oriented Architectures in spring framework
- apply Machine Learning algorithms to solve real world problems
- perform evaluation of learning algorithms and model selection.

- create basic web applications using server-side programming such as nodeJs, Express JS, Angular JS
- create a web application using Python web Framework-Django.

Big Data Analytics(Subject Code:MSE32005)

- Describe and explain the Big Data Analytics, its methodology and its applications.
- Examine and assess the concepts of Hadoop Distributed File System
- Analyse the role of map-reduce and functional programming
- Relate, Explain and examine the case studies related to real life situations using Big data Analytics

Semester IV

Industrial Training

- Accomplish growth objectives that describe what you will learn or what competencies you will gain from the activities you are engaged in for your internship.
- Learn variety of professional work activities designed to provide a total learning experience
