

**MVP Samaj's
Commerce, Management and Computer Science(CMCS)College, Nashik-13
Course Outcomes - MSc(Computer Science)**

Principles of Programming Languages	
CO1	Understand basic language implementation techniques
CO2	Compare programming language designs
CO3	Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms
CO4	To understand concepts of syntax, translation, abstraction, and implementation
CO5	Helps to understand how language features work.
CO6	Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing
CO7	Implement several programs in languages other than the one emphasized in the core curriculum (Java/C++)
CO8	Develop a greater understanding of the issues involved in programming language design and implementation
Advanced Networking	
CO1	To routing protocols and their implementation in enterprise networks.
CO2	To learn about broadband network architectures, quality of service
CO3	To understand internet protocols including V6
CO4	To understand voice over IP,wireless networks
Distributed Database Concepts	
CO1	Main objective is to understand the principles and foundations of distributed databases.
CO2	This course addresses architecture, design issues, integrity control, query processing and optimization, transactions, and concurrency control & distributed transaction reliability.
Design and Analysis of Algorithms	
CO1	Basic Algorithm Analysis techniques and understand the use of asymptotic notation
CO2	Understand different design strategies
CO3	Understand the use of data structures in improving algorithm performance
CO4	Understand classical problem and solutions
CO5	Learn a variety of useful algorithms
CO6	Understand classification problems
Network Programming	
CO1	Basic Understanding of Networking Concepts
CO2	Working Knowledge of C
CO3	User Level Knowledge of Linux

	Digital Image Processing
CO1	Understanding of the principals the Digital Image Processing terminology used to describe features of images.
CO2	Understand the Image Restoration, Compression, Segmentation, Recognition, Representation and Description.
CO3	Knowledge of the Digital Image Processing Systems.
	Advanced Operating Systems
CO1	To Understand Operating Systems Concepts using Unix/Linux and Windows as representative examples.
CO2	To understand the programming interface to the Unix/Linux system - the system call interface. It is intended for anyone writing C programs that run under Unix/Linux
CO3	To understand the functions of Operating Systems. It also provides provide an insight into functional modules of Operating Systems
CO4	The concepts underlying in the design and implementation of Operating Systems.
	Data Mining and Data Warehousing
CO1	Understand the purpose of an DW or DM (data warehouse or data mart)
CO2	Learn proper techniques for data normalization and de-normalization
CO3	Understand the various techniques for data mining
	Programming with DOT NET
CO1	To understand the DOTNET framework, C# language features and Web development using ASP.NET
CO2	To understand object-oriented programming concepts such as data abstraction, encapsulation, inheritance, and polymorphism.
	Artificial Intelligence
CO1	To understand and gain the knowledge of the subject
CO2	To understand Concepts of Data structures and Design and Analysis of algorithms.
CO3	To understand the concept Heuristic Search Techniques.
	Advance Algorithms
CO1	To understand the importance of graph theory in problem solving.
CO2	To know in more depth some important design and analysis techniques for algorithms, in particular, ways to approach NP-complete problems,
CO3	To understand some pieces of current research on algorithms.
CO4	To have some practice in recognizing connections between algorithmic problems and reducing them to each other.
	Software Metrics & Project Management

CO1	Student learn to select and apply 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.
CO2	It examines Requirements Elicitation, Project Management, Verification and Validation and Management of Large Software Engineering Projects.
CO3	Software Metrics and Project Management covers skills that are required to ensure successful medium and large scale software projects
	Mobile Computing
CO1	To familiarize the students with the buzz words and technology of mobile communication
CO2	Understand the GSM architecture
CO3	Understand the issues relating to Wireless applications
	Soft Computing
CO1	To understand the concepts of how an intelligent system work and its brief development process.
CO2	To understand Neural Network, Fuzzy Logic and Genetic Algorithms, which are the major building blocks of Intelligent systems.
	Web Services
CO1	To Understand Web Services and implementation model for SOA
CO2	To Understand the SOA, its Principles and Benefits
CO3	Understanding cloud computing as a web service
CO4	To understand the concept of virtualization and data in cloud.
	Database and System Administrator
CO1	To understand acquire a combination of both Operating Systems & Database Administration skills.
CO2	SDBA program gives you ideal opportunity to practice what you have learned through real life case studies.
	Functional Programming
CO1	Understand what functional programming is, what different variants are there and have some grasp of their history.
CO2	To understand the semantics of different functional languages using precise formal specifications
CO3	Know how to implement functional languages and what optimizations are important
CO4	Be able to state and critique what it means for an implementation of a functional programming language to be correct
CO5	Be able to (in principle) formally prove correctness of their implementations, including their compilers and garbage collectors
	Business Intelligence

CO1	Understand the role of BI in enterprise performance management and decision support.
CO2	Understand the applications of data mining and intelligent systems in managerial work.
CO3	Understand data warehousing and online analytical processing (OLAP) concepts, including dimensional modeling, star and snowflake schemas, attribute hierarchies, metrics, and cubes.
CO4	Learn data analysis and reporting using an available BI software.
	Full Time Industrial Training/ Industrial Project
CO1	has basic knowledge and skills needed for engineering team work
CO2	is able to introduce the relate theoretical knowledge with the practical tasks in an industrial company
CO3	has an overview about the general work arrangement and technology use in companies