



Mahavir Education Trust's

SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE

Affiliated to University of Mumbai, Approved by D.T.E. & A.I.C.T.E. | Awarded 'A' Grade by D.T.E., M.S. | Electronics Engineering Program Accredited by N.B.A., New Delhi for 2 years w.e.f. 6th Aug., 2014 | Computer Engineering Program Re-Accredited by N.B.A., New Delhi for 3 years w.e.f. 1st July 2019 | Information Technology Program Accredited by N.B.A., New Delhi for 3 years w.e.f. 1st July 2019

DEPARTMENT OF COMPUTER ENGINEERING



ISO 9001 Certified

Semester - IV

Unique Course Number: CSC401

Course Name: Applied Mathematics-IV

Unique CO Number	Course Outcome (CO) Statement
CSC4011	Apply the method of solving complex integration, computing residues and evaluate various contour integrals
CSC4012	Demonstrate ability to manipulate matrices and compute Eigenvalues and Eigenvectors
CSC4013	Apply the theory of Eigenvalue and Eigenvectors to recognize the Derogatory and Non Derogatory matrix and to Evaluate functions of square matrix
CSC4014	Apply the concept of probability distribution to the engineering problems
CSC4015	Apply the concept of sampling theory to the engineering problems
CSC4016	Apply the concept of linear and nonlinear programming to the Engineering problems

Unique Course Number: CSC402

Course Name: Analysis of Algorithms

Unique CO Number	Course Outcome (CO) Statement
CSC4021	Analyze the running time and space complexity of algorithms.
CSC4022	Analyze the complexity of divide and conquer strategy.
CSC4023	Analyze the complexity of greedy strategy.
CSC4024	Analyze the complexity of dynamic programming strategy.
CSC4025	Apply backtracking, branch and bound and string-matching techniques to deal with some hard problems.
CSC4026	Describe the classes P, NP, and NP-Complete and prove that a certain problem is NP-Complete.

Unique Course Number: CSC403

Course Name: Computer Organization and Architecture

Unique CO Number	Course Outcome (CO) Statement
CSC4031	To describe basic structure of the computer system.
CSC4032	To demonstrate the arithmetic algorithms for solving ALU operations & to understand concept of control unit.
CSC4033	To describe instruction level parallelism and hazards in typical processor pipelines.
CSC4034	To describe superscalar architectures, multi-core architecture and their advantages.
CSC4035	To demonstrate the memory mapping techniques.
CSC4036	To Identify various types of buses, interrupts and I/O operations in a computer system.

Unique Course Number: CSC404

Course Name: Computer Graphics

Unique CO Number	Course Outcome (CO) Statement
CSC4041	Explain the basic concepts of Computer Graphics.
CSC4042	Analyze various algorithms for scan conversion and filling of basic objects and their comparative analysis.
CSC4043	Solve geometric transformations, viewing and clipping on graphical objects.
CSC4044	Illustrate solid model representation techniques and projections.
CSC4045	Compare visible surface detection techniques.
CSC4046	Compare illumination models and surface rendering



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Unique Course Number: CSC405

Course Name: Operating System

Unique CO Number	Course Outcome (CO) Statement
CSC4051	Understand role of Operating System in terms of process, memory, file and I/O management.
CSC4052	Apply and analyze the concept of a process, thread, mutual exclusion and deadlock
CSC4053	Evaluate performance of process scheduling algorithms and IPC.
CSC4054	Apply and analyze the concepts of memory management techniques.
CSC4055	Evaluate the performance of memory allocation and replacement techniques.
CSC4056	Apply and analyze different techniques of file and I/O management

Unique Course Number: CSL401

Course Name: Analysis of Algorithms Lab

Unique CO Number	Course Outcome (CO) Statement
CSL4011	Analyze the complexities of various problems in different domains.
CSL4012	Prove the correctness and analyses the running time of the basic algorithms for those classic problems in various domains.
CSL4013	Develop the efficient algorithms for the new problem with suitable designing techniques.
CSL4014	Implement the algorithms using different strategies.

Unique Course Number: CSL402

Course Name: Computer Graphics Lab

Unique CO Number	Course Outcome (CO) Statement
CSL4021	Implement various output and primitive algorithms using C/ OpenGL
CSL4022	Implement various filled area primitive algorithms .
CSL4023	Implement transformation and clipping algorithms on 2D graphical objects.
CSL4024	Construct curve and fractal for natural objects of irregular shapes .
CSL4025	Demonstrate projections on 3D graphical object
CSL4026	Develop a Graphical application based on learned concept.

Unique Course Number: CSL403

Course Name: Processor Architecture Lab

Unique CO Number	Course Outcome (CO) Statement
CSL4031	Assemble a personal computer.
CSL4032	To simulate a circuit for performing arithmetic operations.
CSL4033	Implement various algorithms like Booth's algorithm for arithmetic operations.
CSL4034	To design ALU.
CSL4035	To simulate direct mapped cache on virtual lab.
CSL4036	Describe multicore processor, various I/O buses, with merits and demerits.



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Unique Course Number: CSL404

Course Name: Operating System Lab

Unique CO Number	Course Outcome (CO) Statement
CSL4041	Understand basic operating system commands.
CSL4042	Understand and explore various system calls.
CSL4043	Write shell scripts and shell commands using kernel APIs.
CSL4044	Implement and analyze different process scheduling algorithms
CSL4045	Implement and analyze different memory management algorithms
CSL4046	Evaluate different OS techniques/algorithm using simulator and comparative analysis of algorithms.

Unique Course Number: CSL405

Course Name: Open Source Tech Lab

Unique CO Number	Course Outcome (CO) Statement
CSL4051	Demonstrate basic concepts in Python and Perl.
CSL4052	Illustrate files, directories and text processing with Python.
CSL4053	Develop program for data structures using built in functions in Python.
CSL4054	Develop GUI based applications.
CSL4055	Illustrate file handling and database handling using Perl.
CSL4056	Develop program for two-way communication between client and server using Python and Perl.