

Noorul Islam Centre for Higher Education

(Deemed to be University u/s 3 of the UGC Act 1956)

Kumaracoil, Thuckalay, Kanyakumari District - 629 180

Accredited by NAAC with 'A' Grade

SE28 MSc SOFTWARE ENGINEERING



Student Performance and Learning Outcomes

SE28 MSc SOFTWARE ENGINEERING

Programme Outcome(PO)	
PO-A	Can Analyze and design problems domains in to efficient software systems.
PO-B	Will create efficient software engineers and project managers.
PO-C	Programme will produce graduates proficient in multiple software platforms.
PO-D	Apply software engineering principles for creating apps for the society specific domains.
PO-E	Will craft a software professional who can address every area of automation.
PO-F	Graduates can be a well destined software designer/architect.
PO-G	The students can gain knowledge in the working principles using different simulation tools.
PO-H	The students can deploy projects for the benefit of society.
PO-I	The students can effectively interact and convey their ideas appropriately.
PO-J	To students can become aware of career options in IT industry

PROGRAMME SPECIFIC OUTCOME(PSO)	
PSO1	The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, application program, database , graphics and networking for efficient design of computer-based systems of varying complexity.
PSO2	An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.

Sl.No	Subject Code	Subject Name
SEMESTER IV		
1.	MA2804	Discrete Mathematical Structure
2.	SE2812	Advanced Microprocessor
3.	SE2813	Object Oriented Analysis and Design
4.	SE2814	Design and Analysis of Algorithms
5.	SE2815	Computer Networks
6.	SE2816	Computer Graphics
7.	SE2879	Algorithms Laboratory
8.	SE2880	Case Tools and UML Laboratory
SEMESTER VI		
9.	SE822	Software Quality Assurance
10.	SE823	Principles of Management
11.	SE824	Programming with JAVA
12.	SE825	Compiler Design
13.	SE8B1	Distributed Operating System
14.	SE8B4	Network Protocols
15.	SE8P1	Mini Project based on Software Development
SEMESTER VIII		
16.	SE830	Software Testing
17.	SE831	Web Technology and Web Services
18.	SE832	Information Security
19.	SE833	Management Information System
20.	SE8A6	Extreme Programming
21.	SE8B9	Personal Software process and Team Software Process
22.	SE885	Web Technology Lab
23.	SE886	Software Engineering Lab II
SEMESTER X		
24.	SE8P5	Project Work

MA2804 – Discrete Mathematical Structures	
CO1	Know about the Logical Connectivity's, Truth table , Tautology, Contradiction. Evaluate the Principal conjunctive normal form and Principal disjunctive normal form. To prove the validity of arguments, rules of inference.
CO2	Understand the free and bound variables, universe of discourse and apply logical connectivities and implications, rules of Universal Specifications and Generalizations. To prove the validity of arguments.
CO3	Obtain Permutation and Combinations, Principles of inclusion and exclusion. Apply the Pigeon hole principle and Mathematical induction. To find the recurrence relation and generating function.
CO4	Study about basic concepts of sets, subsets, algebra of sets, power set. Find the Cartesian product, rational matrix, the graphs of relations, partitions. To prove the equivalence relations and draw Hasse diagram.
CO5	Know about graphs, sub graphs, apply operation of graphs. Find the graph isomorphism, connectivity. To prove the Eulerian and Hamiltonian graphs, theorems and compute the shortest path problem.

SE2812 – Advanced Microprocessor	
CO1	Able to understand the fundamental concepts of Microprocessors
CO2	Can able to write assembly language programs
CO3	Able to understand the concepts of 8255 PPI & 8237A DMA.
CO4	Able to understand the various signals used in 80186,80286,80386 Ups
CO5	Analyze the recent trends in microprocessor Technology.

SE2813– Object Oriented Analysis and Design	
CO1	Analyze, design and document the object oriented concepts.
CO2	Identify, analyze and model the OO methodologies
CO3	Analyze, design and develop the requirements using approaches
CO4	Understand and design the object oriented process
CO5	Apply the concept of architectural design for deployment.

SE2814 – Design and Analysis of Algorithms	
CO1	Able to evaluate the techniques used to observe and analyze the performance using data.
CO2	To derive and solve recurrences describing the performance of divide and conquer algorithms.
CO3	Ability to analyze different dynamic programming problems to arrive at an optimal solution.
CO4	Able to analyze and implement of various traversal and searching techniques.
CO5	Able to explain the principles of branch and bound algorithms.

SE2815 – Computer Networks	
CO1	To understand the fundamental concepts such as uses of networks, types, protocols and reference models.
CO2	To be familiar with Transmission media.
CO3	To master the terminology and concepts of Data Link layer.
CO4	Gain knowledge in network routing.
CO5	To be familiar with transport protocols and network security.

SE2816 – Computer Graphics	
CO1	To get a deep knowledge on output devices, its types and input devices.
CO2	To get an idea about basic Line algorithms and attributes.
CO3	Will be able to understand 2D geometric transformation and clipping.
CO4	Will be able to generate 3D modeling transformation.
CO5	To get a detailed idea on various visible surface detection method and computer animation

SE2879 – AlgorithmsLaboratory	
CO1	Will Able to search the elements used to observe and used divide and conquer method.
CO2	To implement different sorting techniques using divide and conquer technique.
CO3	Able to implement of various dynamic programming problem to arrive at an optimal solution.
CO4	Able to implement of different traversal techniques.
CO5	Able to implement of different searching techniques

SE2880 – Case Tools and UML Laboratory	
CO1	Analyze the diiferent problem domains in software systems.
CO2	Design the problem domains in software systems.
CO3	Deploy the problem domains in software systems.
CO4	. Implementation using any one of object oriented languages like Java, C++ for systems in 2. 5. Component diagrams,
CO5	Familiarization of features of any one of the standard UML case tool

SE822– Software Quality Assurance	
CO1	Will get the idea about Quality Plans,quality goals
CO2	Will be able to understand quality tasks, quality management
CO3	Will get the idea about Quality standards, Inspection, Walkthroughs
CO4	To get Knowledge about software tools, Evaluation Records, Reports
CO5	To develop Quality models and compare the strengths and wekknesses

SE823 – Principle of Management	
CO1	Analyze how to secure maximum output with minimum effort and resources
CO2	Understand the process of selecting objectives and determining the course of action to achieve objectives
CO3	Analyze the activities required to attain objectives
CO4	Analyzes the process of instructing,,guiding and inspiring human factors in the organization to achieve organization goals.
CO5	Measures the deviation of actual performance from standard performance.

SE824 – Programming with JAVA	
CO1	Able to understand the fundamental concepts of JAVA programming Language
CO2	Apply the programming language in object oriented software development
CO3	Analyze and design the concept of interfaces and packages
CO4	propose the use of certain technologies(exception handling, streams) by implementing them in java to solve the given problem
CO5	Able to Design applications of JAVA Applet

SE825 – Compiler Design	
CO1	Able to design regular expression and different types of finite automata.
CO2	Ability to analyze and interpret context free grammar.
CO3	Gain knowledge in runtime environment is a state of the target machine which may include software libraries.
CO4	Able to apply the code generation algorithms to get the machine code for optimized.
CO5	Ability to choose a solution method appropriate characteristics of a given problem and obtain solution.

SE 8B1 – Distributed Operating Systems	
CO1	Ability to understand the fundamentals of distributed computing system models.
CO2	Gain knowledge in implementing remote procedure calls in distributed systems.
CO3	Can analyze and evaluate different synchronization algorithms.
CO4	Gain knowledge and apply process migration in distributed computing environment.
CO5	Will remember file concepts and naming technologies in distributed systems.

SE 8B4– Network Protocols	
CO1	Ability to understand the packet delivery scheme in internet.
CO2	Demonstrate the knowledge multicast and unicast routing scheme in internet protocol.
CO3	Demonstrate the knowledge of domain name service and remote access application.
CO4	Perform the entry level task of mail server configuration and webserver.
CO5	Ability to understand the network management and securing mechanism.

SE8P1– Mini Project based on Software Development	
CO1	Able to do the mini project in their own .
CO2	Can be able to understand the planning for doing project.
CO3	Can be able to understand collection of requirements needed
CO4	To implement the project .
CO5	Can be able to test the software in their own.

SE830 - Software Testing	
CO1	To get knowledge about Software Testing Environment, Management Supports
CO2	Will be able to understand Testing Process, Tools for testing, Limitations
CO3	Will gain an idea for Test plans,procedures and processes
CO4	Will have an idea of Verification and validation procedures
CO5	To develop Test Results, Test reports, Metrics

SE831 - Web Technology and Web Services	
CO1	Will be able to understand every hardware and software requisites in Web Technology
CO2	Explains E Commerce in detail, also how its applied for web services
CO3	Provides an elaborate idea about the various web technologies needed for on line web services
CO4	Provides knowledge on how EDI is done, and also the web technologies needed
CO5	Will provide an excellent synthesis of web services with cutting edge web technologies

SE832 - Information Security	
CO1	Able to analyze and understand the scope of information security in the environment
CO2	Analyze and evaluate the issues related to computing risks, threats and vulnerabilities
CO3	Able to analyze, identify and implement the security controls to enable secure communication
CO4	Able to develop, analyze and implement security policies and aspects of information security
CO5	Able to apply the basic elements of cryptography and investigate the strategies of access controls, ID and firewalls.

SE833 - Management Information System	
CO1	Ability to remember the structure of management information system.
CO2	Gain knowledge in making decisions using information system.
CO3	Can understand the importance of information based support systems.
CO4	Ability to create requirements specification report for information system.
CO5	Ability to analyze the benefits gained by using information systems.

SE8A6 – Extreme Programming	
CO1	To get a basic idea about .NET Framework its benefits and relationship between .NET and C#.
CO2	Will be able to write the programs in C# using decision making , branching and looping statements.
CO3	To get a knowledge about how to create an array, structure and enumeration.
CO4	To obtain an idea about inheritance, polymorphism and operating overloading.
CO5	Can deals with managing console I/O operations and their standard numeric format.

SE8B9 – Personal Software Process and Team Software Process	
CO1	To get a deep knowledge on software engineering, period and product planning and managing schedules.
CO2	To get an idea about Project plan, process quality and cost of quality.
CO3	Will be able to understand structured team software process, reuse strategy
CO4	Will be able to generate product implementation and various testing strategy.
CO5	To get a detailed idea on team management , roles of various personals and their activities.

SE885 – Web Technology Lab	
CO1	Ability to design and deploy real world application
CO2	Ability to design and develop webpages using HTML.
CO3	To develop web application using JSP,server.
CO4	To get a knowledge about web designing using HTML,CSS&XML
CO5	Get introduced in the area of online game playing

SE886 – Software Engineering Lab II	
CO1	Students will be capable to acquire the generic software development skill through various stages of software life cycle
CO2	Participate in drawing up the project plan.
CO3	Create and specify such a software design based on the requirement.
CO4	Can assess the extend and cost of a project with help of several different assessment method.
CO5	Can produce the requirements and use cases the client wants for the software being produced.

SE8P5 Project Work	
CO1	Able to do the main project based on company environment.
CO2	Can be able to understand the planning ,collection of requirements needed for doing project.
CO3	Can be able to Analyze the project clearly and do the implementation.
CO4	Can be able to test the software with the help of the company.
CO5	to generate test cases for software testing