

CSE12002	Programming Lab	L	T	P	C
Version 1.0	Contact Hours - 30	0	0	3	2
Pre-requisites/Exposure	10+2 Level Mathematics, Knowledge of Basics of Computer				
Co-requisites	Knowledge of Logical Reasoning and Analysis				

Course Objectives:

- To comprehend the practical nature of programming by solving through computer systems.
- To practice the programming construct to solve multi-dimensional problems.
- To relate and implement mathematical concepts through programming in order to solve computational problems.
- To enable students to acquire structure and written expression required for their profession.
- To understand the principles of data storage and manipulation.

Course Outcomes:

On completion of this course, the students will be able to

CO1. List and memorize various Unix commands. Also, students be able to construct various basic programs and appraise them.

CO2. Design and execute iterative statement in a program. Also, students be able to differentiate among different iterative structure.

CO3. Construct such programs that used to define user defined functions and to design library functions.

CO4. Apply array concept in 1-Dimensional and 2-Dimensional construct. Hence be able to design string functions to cater to various character array related problem.

CO5. Apply the concept of Stack, Queue, and Linked List and appraise them in different cases.

Course Description:

Practical Programming skills are mandatory for designing or solving problems through digital device by implementation. To develop any software the behaviour of a programming language is a must through problem solving. In present era almost, all aspect of life is somehow largely related to virtualization and digital data/information. Devices from smartphones to other handheld devices, drones, cameras, medical instruments etc. all needs programming at some part. In engineering it has become quintessential for the students/research scholars to learn programming. In this course, students will learn how to solve problems in various domains through a programming language. This course enables students with the basic skills of C Programming Language. Five Different related modules comprise this course. First Unit familiarizes students with basics of computers, algorithmic method to solve problem, introduction to generic programming construct. Basics of C Programming is upto iterative structure is depicted in Unit II. In Unit III students will learn about modularization using functions and one advance concept of C Programming, Pointers. Unit IV will cover one of the most important concepts in C Programming, Array and Strings. Unit V will accomplish this course with the advance concept like Structure, Union and File Handling. After this course students will grow their analytical ability to solve

problem and logical skill. Also, this course effectively creates the ability to grasp any other Programming Language in easier manner. In all these modules related programming problems are practiced to understand the syntactical and semantical correctness of a program. Gradually students become more comprehensive through the progress of the course.

Course Content Experiments:

Familiarization with LINUX commands and vi editor.

Programs to demonstrate Decision Making, Branching and Looping, Use of break and continue statement etc.

Implementation involving the use of Arrays with subscript, String operations and pointers.

Implementation involving the use Functions and Recursion.

Implementation involving the use Structures and Files.

Implementation based on Stack Queues and Linked List for example Insertion and Deletion.

Text Books:

- Balagurusamy, E., n.d. Programming In ANSI C. 5th ed. Bangalore: McGraw-hill.
- Gotfreid (196) Schaum's Outline of Programming with C, 2nd ed., USA: McGraw-Hill
- Brian W. Kernighan, Dennis Ritchie (1988) C Programming Language, 2nd ed., : Prentice Hall.
- Das Sumitabha, UNIX Concepts and Applications, 4th Ed., New Delhi, Tata McGraw-Hill

Reference Books:

- Al Kelley, Ira Pohl (1988) A Book on C, 4th ed. Addison Wesley Longman

Relationship between Course Outcomes (COs) and Program Outcomes (POs):

Course Code	Course Name	COs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3
CSE12 002	Program ming Lab	CO1200 2.1	1	2	3	3	2	2	1	-	2	-	-	2	1	1	1
CSE12 002	Program ming Lab	CO1200 2.2	2	3	2	3	2	3	3	-	3	-	-	3	1	3	1
CSE12 002	Program ming Lab	CO1200 2.3	2	3	2	3	1	1	3	-	3	-	-	1	1	3	1
CSE12 002	Program ming Lab	CO1200 2.4	2	3	1	1	2	3	3	-	2	-	-	1	3	3	1
CSE12 002	Program ming Lab	CO1200 2.5	3	1	3	3	2	1	2	-	3	-	3	3	3	3	3
CSE12 002	Program ming Lab	CO1200 2	2.0	2.4	2.2	2.6	1.8	2.0	2.4	-	2.6	-	3.0	2.0	1.8	2.6	1.4