

Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
COM-111	C Programming Lab	ESC	2	0	0	4	50	0	50

### Course Outcomes

At the end of the course the student will be able to	
CO1	Demonstrate an understanding of the overall syntax and semantics of C programs.
CO2	Break problems into smaller solvable problem statements and integrate to create a complete solution.
CO3	Develop readable, modular and reusable C programs using built-in and user-defined functions.
CO4	Debug and test programs to determine that the program performs as expected.
CO5	Develop programs that perform operations using derived data types and files.

### List of Activities for C Programming Lab

S. No.	Activities
1	Familiarization with the Lab Environment. Program to print "Hello World".
2	Program for arithmetic operations like addition, subtraction, multiplication and remainder. Program to calculate area and perimeter of circle, square and rectangle. Program to find the Euclidean distance between two points in a plane.
3	Program to check if a number is even or odd. Program to check whether the alphabet is a vowel or consonant. Program to calculate area and perimeter of circle, square and rectangle based on user's choice.
4	Program to calculate factorial of a number using a for loop. Program to print the Fibonacci sequence using for loop. Program to find maximum of n numbers using for loop.
5	Program to check if a number is prime or not using a while loop. Program to calculate sum of digits of a number using a while loop. Program to check if a number is Armstrong or not using a while loop.
6	Program to find the maximum element and index in the array. Program to sort an array using bubble sort. Program to search an element in an array using linear search.
7	Program to read and print elements in two dimensional arrays. Program to perform matrix multiplication.
8	Program to demonstrate the use of various string operations. Program to check whether a given string is a palindrome.
9	Program to create Simple Calculator using switch case and function for every operation. Program to print the Fibonacci sequence using recursion. Program to calculate factorial of a number using recursion.
11	Program to differentiate pass by value and pass by reference by swapping two numbers using function.
12	Program to demonstrate the use of malloc(), calloc(), realloc() and free() functions.
13	Program to store the information of student marks using structures and find total marks of individual student. Program to store information of a student using union. Program to implement an array of structures for student marks for each student and pass it to function for various operations.
14	Program to read and write in a file. Program for reading and writing the student marks data to files.
15	Mini Project: Student Information System.