

**CENTRAL UNIVERSITY OF KERALA
DEPARTMENT OF COMPUTER SCIENCE
M.Sc. COMPUTER SCIENCE**

OPEN ELECTIVE COURSE					
COURSE CODE	COURSE TITLE	CONTACT HRS/WEEK			CREDITS
		LEC	LAB	TUT	
CSC5072	C++	2	2	1	4

Lec = Lecture, Tut = Tutorial, Lab = Practical

This is a problem solving **skill development course**.

Course Objective:

The objective of the course is to provide theoretical and practical aspects of programming using C++.

By completing this course, students will obtain the following course/learning outcomes:

1. Knowledge to be gained:
 - (i) fundamental concepts of design of algorithms using C++
2. Skill to be gained:
 - (ii) Critical analyzing and choosing appropriate data structures and algorithms to solve a specific problem using C++
3. Competency to be gained:
 - (iii) Design algorithms with appropriate data structure for real world problems using C++

Prerequisites: Nil

Grading:

Lab implementation	– 20%
Assignment/Quiz/presentation	– 10%
Class Test	– 10%
Final Exam	– 60%

CSC5072 – C++

Module 1

Introduction to C++: Introduction to C++, structure of C++ program, Compiling and Executing C++ Program. Selection control statements in C++. Data types, expressions and control statements. Scope and Visibility of variables in Functions.

Module 2

Classes, objects, user defined types, constructors/destructors, object oriented design, streams, cout/cin, overloading <<, class conversion, class scope, static data, static member functions.

Module 3

Class inheritance, private/public/protected, polymorphism, virtual functions, abstract classes. Overloading vs. overriding, multiple inheritance, file streams, friends, Object Oriented Design and Patterns. Structures, records, dynamic allocation, new/delete, linked lists

Module 4

Exception handling, overloaded constructors/functions/operators. Case Studies

References

1. C++ common knowledge : essential intermediate programming / C++ (Computer program language) , Dewhurst, Stephen C. Addison-Wesley, Upper Saddle River, N. J.: 2005.
2. C++ programming cookbook Herb Schildt's C++ programming cookbook / C++ (Computer program language), Schildt, Herbert. McGraw-Hill, New York: c2008.
3. Problem solving with C++: The object of programming/ C++ (Computer program language). Savitch, Walter. Pearson Addison Wesley, Boston: 2005. Fifth Edition (International ed.)
4. C++ programming: From Problem Analysis to Program Design / C plus plus programming. : Malik, D S. Course Technology, Boston, MA : c2009. Fourth Edition.
5. Problem solving with C++ / Savitch, Walter J, 1943- Pearson/Addison-Wesley, Boston : c2006. Sixth Edition.