

Programming 2	Code & No:	CS120
	Credits:	4 (3,2,0)
	Pre-requisite:	CS 110
	Co-requisite:	None
	Level:	4

Course Description:

This course is an introductory course in object oriented programming. The fundamental concepts of object oriented programming will be studied using the C++ programming language.

Course Aims:

- 1) State the basic concepts of Object Oriented Programming.
- 2) List the benefits of OOP over traditional structured programming
- 3) Help student to master the C++ implementation of object-oriented concepts including:
 - Encapsulation.
 - Information hiding.
 - Data abstraction.
 - Inheritance hierarchies.
 - Polymorphism.
 - Function overloading.
 - Operator overloading.
- 4) Implement object-oriented programs in C++.

Student Outcomes (SOs):

- (a) An ability to apply knowledge of computing and mathematics appropriate to the program's student outcomes and to the discipline
- (b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- (c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
- (d) An ability to function effectively on teams to accomplish a common goal
- (e) An understanding of professional, ethical, legal, security and social issues and responsibilities
- (f) An ability to communicate effectively with a range of audiences
- (g) An ability to analyze the local and global impact of computing on individuals, organizations, and society

CLO5			√											
CLO6				√										

No.	Topics	Weeks	Teaching hours
1	Classes and Objects	2	6
2	Functions	2	6
3	Inheritance	2	6
4	Polymorphism	2	6
5	Operator overloading	2	6
6	File Processing	2	6
7	Templates	2	6
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Textbook:

- C++: How To Program, Deitel and Deitel, Prentice Hall, 9th ed. 2013

Essential references:

- The C++ Programming Language: Special Edition, Bjarne Stroustrup, 4th edition, Addison-Wesley Professional, 2013.
- C++ Programming: From Problem Analysis to Program Design, De D. S. Malik, Cengage Learning, 2012.
- C++ Programming for the Absolute Beginner, De Dirk Henkemans and Mark Lee, Thomson Course, Technology, 2009.
- Object Oriented Programming with C++, by Balagurusamy (Author) , Publisher: TMH; Sixth edition (1 June 2013), ISBN-13: 978-1259029936