



Ministry of Higher Education and Scientific Research
Lebanese French University – Erbil
College of Engineering and Computer Science
Department of Information Technology



Object Oriented Programming using C++

Second Year – Second Semester

Asst. Prof. Ashish Sharma

Academic Year: 2023-2024

Course Book



S. No.	Information	Details
1.	Course Name	Object Oriented Programming using C++
2.	Course Code	IT202OOP
3.	Lecturer In-charge	Ashish Sharma
4.	College/Department	ECS/Information Technology
5.	Contact Information	E-mail: ashish.sharma@ifu.edu.krd Mobile No.: 0964-7507231261
6.	Time (in hours) per Week	Theory: 02 Hours Practical: 02 Hours
7.	Office Hours	Sunday to Thursday
8.	Teacher's Academic Profile	<p>Master of Technology in Computer Science (CS) Degree passed in 2012 from Jamia Hamdard University Campus, New Delhi, India, with 08.09 CGPA. (Division: First)</p> <p>Master of Computer Applications passed in 2007 from MIET, Meerut, UP, India, affiliated with UP Technical University Lucknow, India. (Division: First)</p> <p>Bachelor of Science passed in 2003 from NAS PG Degree College, Meerut, UP, India, affiliated to CCS. University, Meerut, UP, India with (Mathematics, Optical Instrumentation, and Physics). (Division: Second)</p> <p>I work on minimizing the technical gap of our society from technological and physical aspects by contributing areas of research work: Education Improvement Research, Artificial Intelligence, Blockchain, and the Internet of Things. I have presented and attended various Training, Workshops, Conferences, and Seminars to enhance or share my knowledge/ideas. So far, I have published more than ten (10) Research Articles, a Book Chapter, and a Patent in various reputed International Journals.</p>
9.	Academic Title	Assistant Professor
10.	Keywords	Program Architecture, C++ Program Structure, OOPs Implementation
11.	Course Overview:	<ul style="list-style-type: none"> • This course is designed to impart knowledge on the object-oriented concepts and implementation using C++ with examples and applications. • Get an idea of Class and objects. • Overload several operators, functions and constructors. • Inherit the properties from the base class.



12.	<p>Aims & Objective: The students are:</p> <ul style="list-style-type: none"> ● Able to design program for any application using classes and objects. ● Able to construct program using operator overloading and functions using constructors for any requirement ● Able to decompose different classes and use parent class properties in another class, it save programmer’s effort also line of code. ● Able to design applications using data storage for long time in the form of files. There are many different types of files as per requirement.
13.	<p>Course Requirement:</p> <ul style="list-style-type: none"> ● All students should attend lectures carefully. ● All students should attend on Classroom Tests, Discussions, their Assignments, and Examinations such as Mid-term and Final.
14.	<p>Teaching and Learning Method:</p> <ul style="list-style-type: none"> ● White Board ● PPT Presentation ● Team Work ● Project Show (Practical Session) ● Assignments
15.	<p>Assessment Scheme:</p> <ul style="list-style-type: none"> ● 5 % Assignments ● 10 % Class Tests and Quizzes ● 25 % Mid-term Examination ● 60 % Final Examination
16.	<p>Students Learning Outcome:</p> <ul style="list-style-type: none"> ● Able to think about how to plan for programming to develop a new program or modify an existing program. ● Able to know about how to analyze, design and develop an appropriate program. ● Able to know about how to use syntactical and logical techniques for developing a program. ● Able to know about how to work on software modules development. ● Able to know about how to develop a proper documentary of a system for further use or study.
17.	<p>Course Reading List and References</p> <ul style="list-style-type: none"> ● Book: Herbert Schildt- C++ The complete Reference- Tata McGraw Hill, Third Edition. - 2001 ● Book: E Balagurusamy- Object Oriented Programming C++- Tata McGraw Hill
18.	<p>Course Content</p>



Course Content

S. No.	Week	No. of Hours	Topics
1.	Week-1	4	Object Oriented Programming Concepts
2.	Week-2	4	Class and Object
3.	Week-3	4	Constructor and Destructor-I
4.	Week-4	4	Constructor and Destructor-II
5.	Week-5	4	Inheritance-I
6.	Week-6	4	Inheritance-II
7.	Week-7	4	Polymorphism
8.	Week-8	1	MIDTERM
9.	Week-9	4	Operator overloading, Types of operator overloading
10.	Week-10	4	Function overloading
11.	Week-11	4	Virtual function, Pure-virtual function
12.	Week-12	4	Recursion, Difference between Recursion and Iteration in C++
13.	Week-13	4	Inline Function, Friend Function, Operator Overloading Using a Friend Function
14.	Week-14	4	Strings
15.	Week-15		Final Examination

19.	Examinations:
20.	<p>Notes: The official LFU-IT e-Exam System is followed regarding this subject. The types of questions can be:</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="margin: 5px;"> True/False</div> <div style="margin: 5px;"> Matching</div> <div style="margin: 5px;"> Multiple Choice Text</div> <div style="margin: 5px;"> Multiple Choice</div> <div style="margin: 5px;"> Sequence</div> <div style="margin: 5px;"> Word Bank</div> <div style="margin: 5px;"> Multiple Response</div> <div style="margin: 5px;"> Numeric</div> <div style="margin: 5px;"> Hotspot</div> <div style="margin: 5px;"> Type In</div> <div style="margin: 5px;"> Fill in the Blank</div> </div>