



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



# Advance Programming Language

**Second Year – First Semester**

**Asst. Prof. Ashish Sharma**

**Academic Year: 2022-2023**

**Course Book**



S. No.	Information	Details
1.	<b>Course Name</b>	Advance Programming Language (with C++)
2.	<b>Course Code</b>	IT201APL
3.	<b>Lecturer In-charge</b>	Ashish Sharma
4.	<b>College/Department</b>	ECS/Information Technology
5.	<b>Contact Information</b>	E-mail: ashish.sharma@lfu.edu.krd Mobile No.: 0964-7507231261
6.	<b>Time (in hours) per Week</b>	Theory: 02 Hours Practical: 02 Hours
7.	<b>Office Hours</b>	Saturday to Wednesday
8.	<b>Teacher's Academic Profile</b>	<p>Master of Technology in Computer Science (CS) Degree passed in year 2012 from Jamia Hamdard University Campus, New Delhi, India with 08.09 CGPA. (Division: First)</p> <p>Master of Computer Applications passed in the year 2007 from MIET, Meerut, UP, India is affiliated to UP Technical University Lucknow, India. (Division: First)</p> <p>Bachelor of Science passed in the year 2003 from NAS PG Degree College, Meerut, UP, India affiliated to C.C.S. University, Meerut, UP, India with (Mathematics, Optical Instrumentation and Physics). (Division: Second)</p> <p>To enhance my knowledge, I have attended many seminars and conferences on technically good research topics during my whole career and study yet. Also, I work on, to minimize the gap technically of our society from technological aspects and physical aspects.</p>
9.	<b>Academic Title</b>	Assistant Professor
10.	<b>Keywords</b>	Program Architecture, C++ Program Structure, OOPs Implementation
11.	<b>Course Overview:</b> <ul style="list-style-type: none"> <li>• This course is designed to impart knowledge on the object-oriented concepts and implementation using C++ with examples and applications.</li> <li>• Get an idea of Class and objects.</li> <li>• Overload several operators, functions and constructors.</li> <li>• Inherit the properties from the base class.</li> </ul>	



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



## Course Content

S. No.	Lecture Week	No. of Hours	Topics
1.	Week-1	3	<b>Introduction about C++ Programming Language</b>
2.	Week-2	3	<b>Some important basic terms of C++ Programming: Identifiers, Constant, Preprocessor Directives, Variables, Keywords, Statements, Comments</b>
3.	Week-3	3	<b>Operators, Data-types, User-defined Datatypes</b>
4.	Week-4	3	<b>Comma Operator, Jump Statement-I</b>
5.	Week-5	3	<b>Jump Statement-II</b>
6.	Week-6	3	<b>Selection Statement</b>
7.	Week-7	3	<b>C++ Functions-I</b>
8.	Week-8	3	<b>C++ Functions-II</b>
9.	Week-9	3	<b>MIDTERM</b>
10.	Week-10	3	<b>Inline Function, Recursion, Difference between Recursion and Iteration in C++</b>
11.	Week-11	3	<b>Arrays-I</b>
12.	Week-12	3	<b>Arrays-II</b>
13.	Week-13	3	<b>Strings, Types of Strings, The String Class in C++</b>
14.	Week-14	3	<b>Namespace in C++</b>
15.	Week-15	<b>Final Examination</b>	

19.	<p><b>Examinations:</b></p> <ul style="list-style-type: none"> <li>• <b>Compositional:</b> In this type of exam, the questions usually start with explain (How...? / What ...? /Why...?) With their typical answers. (Example should be provided)</li> <li>• <b>True or False:</b> In this type of exam, a short sentence about a specific subject will be comment on the trueness or falseness of this particular sentence. (Example should be provided)</li> <li>• <b>Multiple Choices:</b> In this type of exam there will be a number of phrases next or below a statement, students will match the correct phrase. (Example should be provided).</li> <li>• <b>Fill blanks:</b> The description may be given and ask.</li> <li>• <b>Matching:</b> A number of questions in one side and their answers in another side will be presented. It will ask the students to match the questions with correct answers.</li> </ul>
20.	<b>Notes:</b>