



**Jerash University**  
**Faculty of Computer Science and Information Technology**  
**Computer Sciences Department**

**Semester:** Fall Semester 2018/2019

<b>Course symbol and number:</b> 1001108	<b>Course Name:</b> مقدمة في لغات البرمجة
<b>Teaching Language:</b> English	<b>Prerequisites:</b> N/A.
<b>Credits:</b> 3 hours.	<b>Course Level:</b> 100

**Course Description**

The main objective of this course is to introduce students to the basic concepts of a selected language (such as C++) and the ability to write simple correct programs. Topics to be covered include: I/O, data types, function definition, visibility and storage classes, parameter passing, loops, arrays, pointers, strings, files, enumerated type, introducing classes and objects, constructors and destructors, function prototypes, private and public access, and class implementation. The practical part of this course is covered in the lab through exercises, practical assignments, and tutorials.

**Course Objectives**

The main objectives of this course are to:

1. introduce students to the basic concepts of a selected language (such as C++)
2. ability to write simple correct programs.
3. to deal with main concepts of C++: I/O, data types, function definition, visibility and storage classes, parameter passing, loops, arrays, pointers, strings, files, introducing classes and objects, constructors and destructors, function prototypes, private and public access, and class implementation.
4. the practical part of this course is covered in the lab through exercises, practical assignments, and tutorials.

## Learning Outcomes

Upon completion of this course, students should be able to:

1. Write clear, elementary C++ programs.
2. Understand algorithmic thinking and apply it to programming.
3. Understand problem-solving techniques.
4. Code with C++ arithmetic, increment, decrement, assignment, relational, equality and logical operators.
5. Code C++ control structures (if, if/else, switch, while, do/while, for) and use built-in data types.
6. Use standard library functions.
7. Write user-defined function definitions.
8. Understand and manipulate methods.
9. Understand call by value.
10. Understand call by reference.
11. Write simple object oriented programs.

## Text Book(s)

<b>Title</b>	C++ Programming: From Problem Analysis to Program Design
<b>Author(s)</b>	D. S. Malik
<b>Publisher</b>	Thomson
<b>Year</b>	2010
<b>Edition</b>	Fifth Edition

## References

<b>Books</b>	<ol style="list-style-type: none"><li>1. C++ How to Program, 9th edition, Deitel &amp; Deitel, Prentice-Hall, 2013</li><li>2. C++ common knowledge : essential intermediate programming/ C++ (Computer program language) , Dewhurst, Stephen C. Addison-Wesley, Upper Saddle River, N. J.: 2005.</li><li>3. C++ programming cookbook Herb Schildt's C++ programming cookbook / C++ (Computer program language) , Schildt, Herbert. McGraw-Hill, New York: c2008.</li><li>4. Problem solving with C++: The object of programming/ C++ (Computer program language) . Savitch, Walter. Pearson Addison Wesley, Boston: 2005. Fifth Edition (International ed. )</li></ol>
<b>Internet links</b>	<a href="http://www.jpu.edu.jo/lms">http://www.jpu.edu.jo/lms</a>
<b>Course link</b>	<a href="#">Click here</a>

## Instructors

<b>Instructor</b>	<b>Dr. Mohammed M. Abu Shquier</b>
<b>Office Location</b>	الطابق السابع – 720
<b>Office Phone</b>	555
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Topics Covered			
Topics	Chapters in Text	Week number	Teaching hours
<b>Introduction Basic concepts:</b> program, programmer, programming languages, solving a problem; The human role, The computer role, Compiler, Interpreter.			
<b>Flowchart:</b> simple flowcharts, Conditional flowchart, Simple iteration flowchart and multiple iteration flowchart			
<b>Problem Solving:</b> process, Analyze (requirement, Design algorithm, Tracing algorithm, Example, Design problems)			
<b>Problem Analysis:</b> Algorithm discovery, Algorithm design strategies, Stepwise refinement, Control requirements,			
<b>Implementing Algorithm</b> and syntax Conclusion			
<b>Data Definition Structures:</b> Types, constants, variables, Expressions: Arithmetic, Logical; Precedence rules.			
<b>Control Structures:</b> Sequencing; Input and output statements; Assignment statement.			
<b>Control Structures:</b> Selection: one-way (if .. then), two-way (if .. then .. else), multiple (switch).			
<b>Control Structures:</b> Repetition (while structure).			
<b>Control Structures:</b> Repetition (do while, for).			
<b>Control Structures:</b> Combination and nested structures>			
<b>Introduction to Methods:</b> <ul style="list-style-type: none"> <li>- Functions with Empty Parameter Lists</li> <li>- Function Definitions with Multiple Parameters</li> <li>- Function Prototypes</li> <li>- Storage Classes</li> <li>- Scope Rules</li> </ul>			

Evaluation		
Assessment Tool	Expected Due Date	Weight
Programming assignments and LMS		20 %
First Exam		20 %
Second Exam		20 %
Final Exam	According to the University final examination schedule	40 %

## Policy

<b>Attendance</b>	Attendance is very important for the course. In accordance with university policy, students missing more than the allowed absence rate of total classes are subject to failure. Penalties may be assessed without regard to the student's performance. Attendance will be recorded at the beginning or end of each class.
<b>Exams</b>	All exams will be CLOSE-BOOK; necessary algorithms/equations/relations will be supplied as convenient.

## Class Schedule & Room

### Office Hours

Sun: 8 - 9  
Mon: 8 - 9:30  
Tues: 11- 12  
Wed: 11 – 12:30

\* Or by an appointment through email

### Teaching Assistant

To announced later on.

### Prerequisites

<b>Prerequisites by course</b>	N/A
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