



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

Semester: Fall Semester 2018/2019

Course symbol and number: 1001130	Course Name: أساسيات البرمجة
Teaching Language: English	Prerequisites: 1001108.
Credits: 3 hours.	Course Level: 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 arrays.
9. Pass arrays to functions and pointers.
10. Defining and manipulating 2D arrays.
11. Write simple object oriented programs.
12. Read and write Text files.

Text Book(s)

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

References

Books	<ol style="list-style-type: none">1. C++ How to Program, 9th edition, Deitel & Deitel, Prentice-Hall, 20132. C++ common knowledge : essential intermediate programming/ C++ (Computer program language) , Dewhurst, Stephen C. Addison-Wesley, Upper Saddle River, N. J.: 2005.3. C++ programming cookbook Herb Schildt's C++ programming cookbook / C++ (Computer program language) , Schildt, Herbert. McGraw-Hill, New York: c2008.4. Problem solving with C++: The object of programming/ C++ (Computer program language) . Savitch, Walter. Pearson Addison Wesley, Boston: 2005. Fifth Edition (International ed.)
Internet links	http://www.jpu.edu.jo/lms
Course link	Click here

Instructors

Instructor	Dr. Mohammed M. Abu Shquier
Office Location	الطابق السابع – 720
Office Phone	555
E-mail	Shquier@jpu.edu.jo

Topics Covered			
Topics	Chapters in Text	Week number	Teaching hours
An Overview of Basic Computers and Programming Languages (Selection, Repetition)	Chapter 1-5	1-3	2
User-Defined Functions I: <ul style="list-style-type: none"> - Functions with Empty Parameter Lists - Function Definitions with Multiple Parameters - Function Prototypes - Storage Classes - Scope Rules 	Chapter 6	4, 5, 6	7
User-Defined Functions II: <ul style="list-style-type: none"> - References and Reference Parameters - Default Arguments - Unary Scope Resolution Operators - Function Overloading - Recursion 	Chapter 7	8,9, 10	7
Arrays: <ul style="list-style-type: none"> - Introduction - Arrays (One and Two Dimensional) - Declaring Arrays - Examples Using Arrays - Passing Arrays to Functions (One Dimensional) 	Chapter 9	11	3
Pointers: <ul style="list-style-type: none"> - Introduction - Pointer Variable Declarations and Initialization - Pointer Operators - Passing Arguments to Functions by Reference with Pointers 	14	12	3
Classes <ul style="list-style-type: none"> - creating classes - class constructors and destructor - private and public access specifies - member functions and data members - class's implementation and interface 	12	13,14	4
File I/O Stream <ul style="list-style-type: none"> - open a text file - closing a text file - reading and writing text files 	Handout	15	3

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

Attendance	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.
Exams	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

Prerequisites by course	1001108
--------------------------------	---------