Philadelphia University
Faculty of Engineering
Department of Computer Engineering
First Semester, 2011/2012

Course Syllabus

Course Title: Programming Language	**Course code:** 630203
Course Level: second year	**Course prerequisite (s) and/or corequisite (s):** computer skills (2)
Class Time: 12:10-13:10 Sun, Tue, Thu (s2)	**Credit hours:** 3

Academic Staff Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Dr. Qadri Hamarsheh	Assistant professor	**E712**	**11:00-12:00 (Sun-Tue-Thu)**	qhamarsheh@philadelphia.edu.jo

Course description:
This course introduces the basic principals of structured programming. Students will learn and practice the application of these programming principles to the solution of engineering problems using the C++ high-level programming language.

Course objectives:
Upon completing this course the student should be able to:

- Understand the programming fundamentals.
- Develop algorithms.
- Understand and write searching and sorting algorithms.
- Use Functions, strings and pointers.

Course components
Textook: C++ Programming From Problem Analysis To Program Design, Fifth Edition, D.S. Malik, Course Technology, 2011.

Teaching methods:
Classes: three lectures per week
Tutorial: one hour per week (optional)
Homework: 7-8 homework assignments

Learning outcomes: upon completing this course, the student should have: -

- **Knowledge and understanding**

- Have an understanding of the main programming constructs of C++
- Have an understanding of the role of design in the development of programming solutions to problems
- Have knowledge of some standard algorithms and data structures

- **Cognitive skills (thinking and analysis)**.

- Develop the ability to analyze problems and propose algorithms to solve them

- **Practical and subject specific skills (Transferable Skills).**

- be able to write computer programs to solve practical engineering problems
- be able to design efficient computer programs to solve practical engineering problems

Course Intended Learning Outcomes								
A - Knowledge and Understanding								
A1.	A2.	A3.	A4.	A5.	A6.	A7.	A8.	
B - Intellectual Skills								
B1.	B2.	B3.	B4.	B5.	B6.	B7.	B8.	B9.
C - Practical Skills								
C1.	C2.	C3.	C4.	C5.	C6.	C7.	C8.	C9.	C10.
D - Transferable Skills								
D1.	D2.	D3.	D4.	D5.	D6.	D7.		

Assessment instruments

Allocation of Marks	
Assessment Instruments	**Mark**
First examination	**20**
Second examination	**20**
Final examination: 50 marks	**40**
Reports, research projects, Quizzes, Assignments, Projects	**20**
Total	**100**

Documentation and academic honesty

- Avoiding plagiarism.

Any student caught cheating or copying home work will be punished according the code of conduct and policies used in the faculty of engineering.

Course academic calendar

week	Basic and support material to be covered
(1)	Introduction to computers and programming
(2)	Inroduction to C++, Input / Output commands.
(3)	Memory concepts, Arithmetic & relational operators
(4)	Control statements I : If & If...else & switch statments
(5)	Control statements II: for loop
(6) **First exam.**	Control statements III: while & do while loops
(7)	Functions I, defenition + examples
(8)	Functions II, function overloading
(9)	Functions III, recursion
(10)	Arrays I, defenition + examples
(11) **Second exam.**	Arrays II, examples: Searching
(12)	Arrays III, sorting and multidimensional arrays
(13)	Pointers I, defenition, pointer operators
(14)	Pointers II, const with pointers + function pointers
(15)	Pointers III, String function
(16) **Final Examination**	File processing

Expected workload:

On average students need to spend 2 hours of study and preparation for each 50-minute class/tutorial.

Attendance policy:

Absence from classes and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

Course references

Books

References:

- C++ How to program, By: H.M.Deitel and P.J. Deitel, 5th ed. Prentice Hall.
- Richard Halterman, "Fundamentals of Programming: An Introduction to Computer Programming Using C++" 1995
- Jofel Adams, Sanford Leestma, and Larry Nyhoff, "Turbo C++: An introduction to computing" Prentice-Hall, 1996.

Websites

The C++ resource network: http://www.cplusplus.com
Textbook hompage: http://www.deitel.com/books/cpphtp5
Free C and C++ resources: http://www.freeprogrammingresources.com/freetutr.html