# Philadelphia University

Faculty of Engineering - Department of Computer Engineering
First Semester 2019/2020

## Course Details:

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|---|---|
| **Title:** | Programming Language (630263) |
| **Prerequisite:** | --- |
| **Credit Hours:** | 3 credit hours (approximately 44 contact hours) |
| **Textbook:** | "C++ Programming From Problem Analysis To Program Design", Fifth Edition, D.S. Malik, 2010 or later |
| **References:** | "C++ How to program", By: H.M.Deitel and P.J. Deitel, 5th ed. Prentice Hall<br>"Problem solving with C++: the object of programming", By: Walter Savitch, Pearson/ Addison Wesley, 2005 |
| **Course Description:** | The course is a requirement for all engineering students. It introduces the basic principles of structured programming. Students will learn and practice the application of these programming principles to solve engineering problems using the C++ programming language. |
| **Website:** | http://www.philadelphia.edu.jo/academics/srushdan/ |
| **Instructor:** | Eng. Sultan M. Al-Rushdan<br>**Email**: srushdan@philadelphia.edu.jo<br>**Office**: Engineering building, room: 6715 , ext: 2149<br>**Office hours**: SUN, TUE, THU (11:10 – 12:10) , MON , WED (11:15-12:45) |

## Course Outlines:

| Week | Topic |
|---|---|
| 1 | Course Introduction, Programming Environment |
| 2 | Basic elements of C++ Input / Output Instructions |
| 3 | Variables and Data types Math. Functions |
| 4 | |
| 5 | Control Statements: selection, multiple selection |
| 6 | |
| 7 | Control Statements: Repetition |
| 8 | |
| 9 | |
| 10 | Arrays. One and Two Dimensional arrays |
| 11 | |
| 12 | Functions:<br>• Definition<br>• Local / Global variables<br>• Call by Reference, Call by value<br>• Recursive functions |
| 13 | |
| 14 | |
| 15 | Structures |
| 16 | Final Exam |

## Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, the student should:

| | | |
|---|---|---|
| 1. | Be able to write computer programs to solve specific engineering problems | [a, b, e] |
| 2. | Be able to develop computer algorithms to solve an engineering problem | [e , b, k] |
| 3. | Have the ability to read and understand existing computer programs | [a , e] |
| 4. | Understand the basics of computer programming: variables, conditions, loops and arrays | [a , k] |
| 5. | Understand the concept of computer functions and have the ability to use them to simplify problem solving | [a , k] |
| 6 | Understand and be able to use Arrays in Computer Programs. | [a , k] |

## Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

**Sub-Exams:** The students will be subjected to two scheduled written exams, first exam and second exam during the semester.

**Quizzes**: (5) Quizzes of (10-15) minutes will be conducted during the semester.

**Final Exam:** The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

## Grading policy:

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|---|---|
| First Exam | 20% (13-21/11/2019) |
| Second Exam | 20% (18- 29/12/2019) |
| Quizzes | 20% |
| Final Exam | 40%(25/1 /2020-1/2/2020)<br>(20% written Exam, 20% Practical exam) |
| Total: | 100% |

## Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

SEP, 2019