

**Syllabus  
Winter 2018**

Lecturer: Dr. Răzvan Popovici, PhD	Lectures: Fri 8:00 AM - 9:47AM DH 167
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**Course Description**

The course is an introduction to the C++ programming language. It covers fundamental C++ language structures: control structures, templates, classes and pointers as well as elements of C++ Standard Library, string manipulation, Input/Output, Object Oriented Methodologies, Data Structures, Software Development Life-Cycle and Introduction in Graphical User Interface. The syntax level is C++11 with few C++14 elements.

**Prerequisites:** CSE 230, CIT 230, CSI 2300 or equivalent.

**Course Objectives**

- Understand the C++ language, its capabilities and area of applicability
- Be able to solve a specific programming problem in C++
- Be able to intelligently choose language components, constructs, algorithms and data structures to develop code for a provided problem.

The course emphasizes on development of programming techniques and achievement of software development technical acumen. However, some computer science abstract concepts are presented and explained through the perspective of C++ language.

**Textbook**

Stroustrup, Bjarne. *Programming Principles and Practice Using C++ Second edition*. Addison-Wesley, 2014. ISBN 978-0-321-99278-9

Class attendance is mandatory. Except in extraordinary circumstances, **final grade will be seriously affected if a student misses more than three (3) classes**. Being late is being rude. Every student must attend class and participate actively. Active participation involves making contributions to the community of learning for the course. Students can contribute by asking and answering questions related to the topics of the course. You will be called in most class sessions to discuss material contained in chapter. Refrain from chatting, reading the newspaper, answering phones, wearing headsets etc. **Laptops are only allowed for taking notes during lectures.**

**Course Website and software:** All course information (lecture notes, projects, announcements, questions, etc.) will be posted in Moodle (<https://moodle.oakland.edu/>). Students are responsible for checking Moodle on a regular basis. Note: Firefox is the preferred browser for Moodle. A free download is available at <http://www.mozilla.com/firefox/>. A Microsoft Visual Studio (IDE) is required in this course. The product is proprietary but freely available for OU students in Dreamspark.

**Evaluation**

Students will be evaluated based on the following components with the given weights:

- 50% — Homework and Quizzes
- 15% — Midterm Exam
- 25% — Final Exam
- 10% — Class Participation

Policy for converting total points to grades: grade 4.0 corresponds to 100% points, grade 1.0 corresponds to 50% points, and the scale is linear between grades 1.0 and 4.0.

**Note:** The total grade shown in Moodle does not reflect the above proportions. So, do your own calculation using the proportions.

### **Course Schedule and topics**

01/05/17	8:00 AM	Syllabus, Introduction Ch1-2: Programming "Hello, World!"
01/12/17	8:00 AM	Ch3: Objects, Types, and Values Ch4: Computation
01/19/17	8:00 AM	Ch5: Errors Ch6: Writing a program
01/26/17	8:00 AM	Ch7: Completing a program
02/02/17	8:00 AM	Ch8: Technicalities: Functions, etc. Ch9: Technicalities: Classes, etc.
02/09/17	8:00 AM	Ch10: Input/Output Streams Ch11: Customizing I/O
02/16/17	8:00 AM	Ch12: A Display Model Ch13: Graphics Classes
02/23/17	8:00 AM	Winter recess
03/02/17	8:00 AM	Midterm (Ch 1-11)
03/09/17	8:00 AM	Ch14: Graphics Class Design Ch15: Graphing Functions and Data
03/16/17	8:00 AM	Ch16: Graphical User Interfaces Ch17: Vector and Free Store
03/23/17	8:00 AM	Ch18: Vectors and Arrays Ch19: Vector, Template, and Exceptions
03/30/17	8:00 AM	Ch20: Containers and Iterators Ch21: Algorithms and Maps
04/06/17	8:00 AM	Ch22: Ideals and History Ch23: Text Manipulation
04/13/17	8:00 AM	Ch24: Numerics Ch25: Embedded Systems Programming
04/23/17	8:00 AM	Exam

Lecture topics and project assignments are subject to continuous change at the discretion of the instructor.

### **Academic Integrity**

Students who are suspected of academic dishonesty will receive "0.0" in this course. Academic dishonesty includes, among other things, plagiarism (copying without acknowledging the source), unauthorized procurement, distribution or acceptance of examinations, or giving or receiving assistance from an unauthorized source while completing an examination or other assignment. Extreme cases result in expulsion from the University. You are expected to do your own work. No one may give you answers to reports or exams. You are allowed to work on project assignments with the members of your group. Plagiarism of any type will result in an automatic report to the University Official. More information can be found in "Academic Policies and Procedures" of Oakland University 2017-2018 Undergraduate catalog at: <http://catalog.oakland.edu/content.php?catoid=11&navoid=483>.