TERM: Spring 2014  
CREDITS: 3  
INSTRUCTOR: Dr. José M. Reyes Álamo  
OFFICE: V621  
EMAIL: jreyesalamo@citytech.cuny.edu  
WEBSITE: http://openlab.citytech.cuny.edu/jreyesalamo/  
COURSE WEBSITE: http://openlab.citytech.cuny.edu/cet3640s14/  
PHONE: (718) 260-5036  
OFFICE HOURS: Monday/Friday 1:00 PM - 2:00 PM  

TEXTBOOK:  

YOUR C++ BOOK  

COURSE DESCRIPTION:  
Programming concepts and software development techniques for computer-controlled systems. Laboratory exercises apply these concepts to a variety of systems and devices.  

PREREQUISITES:  
CST 2403, CET 3510  

LEARNING OBJECTIVES:  
This course will introduce the students to software for computer control, moving from basic programming to intermediate level programming. It is assumed that the students have a working knowledge of assembly language, operating system (OS), and a high-level programming language such as C++. This course will reinforce that knowledge and teach them object-oriented programming, popular data structures, code portability, multi-platforms support, and how to use these for computer control. At the end of the course the student should be able to write and understand code that interacts with devices, the OS, and other software. Student should have object-oriented programming concepts and widely used data structures clear. Student’s knowledge will be demonstrated in a project in which they must apply these concepts.  

1 The instructor reserves the right to modify the syllabus anytime.
Attendance:

The professor will take attendance at each class as it is required for you to be there. If you are absent more than twice you may receive a WU grade. Excessive lateness (more than 15 minutes) will be considered an absence. You must provide documentation for justified absences such as doctor’s appointment, family emergency, jury duty, military service, etc. You are responsible for any material covered in class and compliance with deadlines.

Grading Criteria:

- **Quizzes and Homework:**
  
  There will homework and/or quizzes assigned regularly related to the material covered on class. Sharing ideas and engaging in intellectual discussions is encouraged, however individual assignments must represent the student’s own work. No late homework or quizzes will be accepted.

  Quiz 0 is mandatory and is a pre-requisite for the rest of the quizzes to be graded.

- **Labs:**
  
  Labs will consist of programming assignments where students have to solve a particular problem using the programming techniques learned in class, create a lab report, and submit it to the professor. No late labs will be accepted.

  Lab 0 is mandatory and is a pre-requisite for the rest of the labs to be graded.

- **Midterm Exam:**
  
  A midterm exam will be administered to test the knowledge acquired up to half of the semester. Students are required to take exams the day and time they are scheduled. There is no make-up exam unless you have a valid reason according to CityTech’s policy.

- **Second Exam:**
  
  A second exam will be administered around the 11th week of class. This exam is comprehensive, and will test material from the beginning of the semester up to the 10th week. Students are required to take the exam the day and time scheduled. There is no make-up exam unless you have a valid reason according to CityTech’s policy.

- **Project:**
  
  Students will work on a project where they will apply to a greater extent the concepts learned in the course. For the project students will work in groups and the deliverables are: proposal, implementation, report, and presentation.

Academic Integrity:

Students and others individuals who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and
professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Academic dishonesty is prohibited in The City University of New York and is punishable by penalties, including failing grades, suspension, and expulsion.

**General:**

Refer to the schedule of classes for appropriate deadlines and procedures. Course material as well as assignments and labs will be distributed electronically on Blackboard and on the class website. It is your responsibility to check for new material frequently, daily is recommended. Ignorance of applicable deadlines and procedures is not a basis for a waiver of existing regulations.

**Course Schedule:**

**Programming Review:** Review of programming language concepts and commands. Introduction to the Java programming language basics such variables, operators, functions, decision statements, loops etc. Weeks 1-2

**Object-Oriented Programming (OOP) Concepts:** Introduction to object-oriented programming, classes, encapsulation, and inheritance its keywords, terminology, and uses. Weeks 3-5.

**Midterm Exam:** Partial. Week 6.

**Object-Oriented Programming (OOP) Concepts - Continuation:** Continuation of object-oriented programming, inheritance, and polymorphism its keywords, terminology, and uses. Team presentation, project proposal, and first draft with references due. Weeks 7-8

**Data Structures and Advanced Concepts:** Memory references and basic data structures such as arrays, lists, sets, stacks, queues, and trees. Discussion on threads and concurrency. Review for the second exam. Weeks 9-10.

**Second Exam:** Comprehensive. Week 11.

**Android Programming and Project:** Introduction to the Android system and the tools to program it. Work on your project. Weeks 12-13.

**Project Presentation:** Week 14.

**Project Paper Due:** Week 15.

**Grade Criteria:**

- Quizzes/Homework: 15%
- Labs: 25%
- Midterm Exam: 15%
- Second Exam: 15%
- Project: 30%
## Grading Scale:

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<tr>
<th>Letter Grade</th>
<th>Numeric Average</th>
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<tr>
<td>A</td>
<td>93 – 100</td>
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