COMP- 110-001 Introduction to Programming

Summer I, 2014

Bulletin Description from graduate bulletin

When: MoTuWeThFr 09:45 - 11:15
Where: 0220, Peabody Hall
Website: http://www.cs.unc.edu/~weicheng/COMP110-001.htm
Instructor: Wei Cheng
Office: SN 324
Email and web: weicheng@cs.unc.edu  http://www.cs.unc.edu/~weicheng/
Office Hours: MoWe 2:00p - 3:00p, or by appointment
Phone: 919-360-3103

Description

This course is an introduction to programming for students with little or no programming experience. There are two primary goals:

1. To learn fundamental programming skills
2. To learn systematic and logical thinking

Basic programming concepts include: variables, loops, conditionals, arrays, functions, and classes. Basic problem solving approaches include: abstraction, division into sequential pieces, and division into layers. All code is written in the Java programming language.

This material will be learned through a combination of reading assignments, analysis assignments and program writing. One objective of the course is to further develop your programming skill. There will be ~6 programming assignments. Many of the meetings of this course will include lab time, during which you will practice programming hands-on. Bring your laptop and book to every class. Attendance is required.
Textbook

Java: Introduction to Problem Solving and Programming (6th edition)
by Walter Savitch, Prentice Hall.
The 5th edition is very similar to the 6th edition and is a lower cost alternative. A custom printing of a portion of the textbook is available through UNC Student Stores. You can also purchase the Kindle edition. (online version: http://www.amazon.com/Java-Introduction-Problem-Solving-Programming/dp/0132162709/ref=dp_ob_title_bk)

Objectives

By the end of this semester, students should be able to:

1. Develop algorithms.
2. Develop problem solving techniques.
3. Apply fundamental programming concepts, such as variables, loops, conditionals, functions, and arrays, in programming assignments.
4. Use pseudocode and Object Oriented design techniques for the planning and development of programming sequences.
5. Understand the basic components of computer programming in Java, which can be applied to other languages as well (C, C++, Python, etc.)
6. Analyze existing programs to identify problems or potential improvements.
Prerequisites

1. Although this course has no prerequisites, a basic background in math — especially algebra — is required.
2. I assume basic computer skills (using a web browser, writing email, using word processing applications, downloading and installing software, etc.).
3. If you are not comfortable using a computer, consider taking COMP 101 ("Power Tools for the Mind") before taking COMP 110.
4. If you have previous programming experience, such as in a high school course, (especially, a Computer Science AP course) consider taking COMP 401 ("Foundations of Programming") instead. If you are interested in taking COMP 401 without taking COMP 110, please see me first.

Topics

- Introduction to computers and programming tools.
- Variables, types, values and declarations
- Input and output
- Expressions and statements
- Flow control
- Loops
- Arrays
- Object-Oriented Programming

What to Expect

Here are the major parts of all the assignments and projects.

Reading assignments

- These will be general directions for reading your text book. It is a better idea to do them before coming to each class.

Assignments
• Several written homework will be assigned to help you to better understand the definitions and concepts. There will also be programming assignments, which require the submission of a Java program which generates the correct results.

Exams

• There will be an in-class written mid-term exam and a written final exam during the university-scheduled time slot.

Attendance

• Attendance is required for this class, and is a factor in your grade. This includes class participation.

Grading

Programming Assignments: 60%
Mid-term exam: 15%
Final exam: 20%
Attendance & class participation: 5%

Late Policy

Assignments are on time if they are received at or before 11:59 PM on the due date. After that, assignments are considered late.

Each student has 3 free "late days", which may be used at any time and in any combination. Using a late day gives the student an extra 24 hours to turn in the assignment. Unused late days are each worth 2 extra credit points on the final exam. Once a student's late days have been exhausted, late assignments will not be accepted for credit.

Attendance Policy

Each student must sign the attendance sheet during class. The first missed class will not result in a penalty, but each subsequent missed class (up to five) will result in a loss of one of the five attendance percentage points.
Honor Code

- You may discuss general approaches for the assignments, but **all code must be your own**, and you must be able to explain your code.
- Exams and quizzes are to be entirely your own work. You may not collaborate with other students or use any computers, books, notes, or previously completed assignments.
- Please be familiar with the [UNC Honor Code](#) and the [Computer Science Honor Code](#)
- You will be required to sign an honor code pledge to hand in with every assignment.

 Misc

 Java 7 download
 Eclipse download
 Java 7 API documentation