

CSci 13500 Software Analysis & Design 1

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Office Hours: Thursday 3:03 PM - 4:03 PM

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## **Course Hours**

**Lecture:** Monday - Thursday: 9:50 AM - 11:00 AM

**Lab:** Tuesday and Thursday: 1:30 PM - 3:03 PM

## **Course Description**

Software development is a skill that involves solving real-world problems by developing computer programs. Breaking a problem down, then creating a series of logical steps (an algorithm) that solves the problem is the conceptual part of the course. The technical component involves translating the solution into a working computer program.

*This course is:*

- An introduction to software development, using the C++ programming language. A successful student will be able to clearly and logically develop an algorithmic solution to a problem, while being comfortable enough with C++ to transform the algorithm into a working computer program.
- A preparation for further courses in computer science. This course is one of the “ABCs” of computer science. Students who expect to succeed in more advanced courses in computer science need to go beyond understanding the material presented in this course – they need to master it. It’s sort of like the fact that you need to master the alphabet in kindergarten in order to be a successful reader in first grade.
- Time consuming. Any programming course takes up a lot of a student’s time. In addition to the time spent in class, most students will need to spend between 10 and 15 hours a week at a computer. That makes for a total of 15-20 hours a week actually developing algorithms, and writing and debugging programs.

*This course is not:*

- An introduction to computers in general. We will not cover: operating systems, networks, databases, etc. This course teaches a specialized skill – developing solutions using computer programming – and only that. You should already possess basic computer skills such as compiling simple computer programs, editing files, manipulating files, etc. If you don’t feel comfortable with these sort of basic computer skills you should come talk to me.
- An overview of the C++ language. C++ is a huge language with a lot of highly technical details. We will cover the fundamentals of C++, but the focus is on designing algorithms and solving problems.

## **Pre-Requisites**

The prerequisite is CSCI 12700 or instructor's permission. At the very least, you should have written, compiled, and run a program containing iteration *while*, *for* and selection *if* statements.

## **Class Expectations**

- You will be expected to work independently outside of the lectures. Get started right away, it is your responsibility to submit functioning
- Absorbing the material and doing the assignments may be challenging. In order to grasp software development concepts one must sit in front of a computer many hours a week actually writing and debugging programs outside of class time. When it comes to programming, the learning is in the doing. There is no substitute for trying and failing, trying and failing, until you finally get your program up and running correctly. Get ample help from the tutors.
- Midterm and final exams are largely based on the labs, programming projects, and lectures. It is essential that you complete them on time.

## **Grading**

All Assignments will be posted on Gradescope. Below is the grade distribution.

Projects: 20%

Exams: 60%

Labs and Assignments: 20%

## **Late Submission Policy**

Any late submission (excluding exams) will receive a letter grade deduction (i.e: A to A-) for each day submitted late up to one week. If special circumstances come up, send an email and we can arrange something.

## **Academic Integrity**

We take academic honesty very seriously, and any violation results in sanctions in accordance with Hunter College procedure. Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

## **Students With Disabilities and Medical Conditions**

In compliance with the ADA and with Section 504 of the Rehabilitation Act, Hunter College is committed to ensuring educational access and accommodations for all its

registered students. Hunter College's students with disabilities and medical conditions are encouraged to register with the Office of AccessABILITY for assistance and accommodation. For information and appointment contact the Office of AccessABILITY located in Room E1214 or call (212) 772-4857 or VRS (646) 755-3129.

### **CUNY Policy on Sexual Misconduct**

In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College. a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444). b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123. CUNY Policy on Sexual Misconduct Link

[https://www.gc.cuny.edu/CUNY\\_GC/media/CUNY-Graduate-Center/PDF/HR/Policy/Policy-Sexual-Misconduct.pdf?ext=.pdf](https://www.gc.cuny.edu/CUNY_GC/media/CUNY-Graduate-Center/PDF/HR/Policy/Policy-Sexual-Misconduct.pdf?ext=.pdf)

### **CAMERA AND RECORDING POLICY**

Students who participate in this class with their camera on or use a profile image are agreeing to have their video or image recorded solely for the purpose of creating a record for students enrolled in the class to refer to, including those enrolled students who are unable to attend live. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live.