

CSCI 49900: Advanced Applications, a Capstone for Majors

4 credits. Department of Computer Science, Hunter College, City University of New York.

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Details

Field	Value
Instructor:	Raffi Khatchadourian
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Semester:	Fall 2020
Section:	CSCI 49900-04

Course Description

This course is a chance for Computer Science majors to test their mettle on major projects. Working in small groups, you will implement systems that fulfill one of the ICSE SCORE 2021 project proposals or one of the instructor's choosing. Student teams wishing to *enter* the contest must follow the instructions on the SCORE CFP. This includes *team registration* by no later than *Nov 30* and a summary report no later than *Jan 10*. **Note that the contest deadline is later than the course submission requirements.** This means that you *must* complete the project *prior* to the contest deadline, but all *documents* required by the contest may *not* be needed by the course deadline.

Note that the contest may require artifacts outside those required of our class. Also, students that have not taken CSCI 40500: Software Engineering may not be familiar with all of the artifacts, e.g., software requirements. Such students are welcome to ask the instructor for guest access to previous 40500 courses or may seek the advice of other students who have taken the course. Student teams not working on one of the official SCORE topics, e.g., ones put forth by the instructor, may not officially enter the contest.

Projected Project Timeline

Day	Date	Task
3	Sep 4	Groups and projects must be finalized.
5	Sep 11	Group details due. This should contain a "group authored" section detailing v
9	Oct 1	Progress reports start. These should be roughly 10 minute presentations, one
29	Dec 8	Final demonstration of completely working project.

Day	Date	Task
Final	Dec 18 11:30-1:30 pm	Final written report including your reflections on the project and the final de

Prerequisite

All non-elective courses in Computer Science required for graduation or permission of instructor.

Textbook

There will be no textbook for this course.

Grading

Grades will be based on a project, presentations, attendance, etc. The project, worth 35% of your grade, will implement one of the SCORE proposals or one of the instructor's choosing. Students may lobby the instructor to advocate for their own project proposals, which will be considered on a case-by-case basis. You will work with a **team of 3 to 5 other students**. This grade will be determined in part by my evaluation of the project and in part by your team members evaluation of your contribution. See the appendix for a complete description. Periodic presentations and written reports, reporting on tools and progress, will account for 55% of your grade. Professional presence (5%) and attendance (5%) will account for the rest of your grade.

Listed below is the complete breakdown:

Area	Percentage
Project	35%
Presentations (expect: 2 for progress)	25%
Written assignments (progress reports)	20%
Periodic peer reports	5%
Final peer report	5%
Professional presence	5%
Attendance	5%
Total	100%

Goals

There are two related goals for this class. The first is to assess the students' mastery of the department's stated learning goals. The second is to assess the department's effectiveness in addressing these goals. For a complete list of these goals, see the learning goals for Hunter College Students.

Attendance

Attendance is expected for *each and every class* meeting. Each student is allowed five (5) absences for any reason except on days when there are presentations or exams. Absences exceeding the allowance or absence on a presentation day for any reason results in a 0.2% deduction from the attendance grade.

Academic Violations

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. Special attention is given to CONTRACT CHEATING (this is where students have work completed on their behalf which is then submitted for academic credit).

Email

Emails to the instructor must be via a Hunter College email addresses for FERPA reasons. Please post all class-related discussion on the Bb discussion board. Also, please ensure that your *correct* email address is entered into the CUNY Blackboard.

Bulletin Board

You should check the Blackboard site regularly, since all class material will be posted there. Please make sure you have configured Bb to use your *Hunter College email address*. You are responsible for any email the instructors might send there.

Computer Science Facilities & Labs

All computer science students can use any of the general-purpose labs throughout Hunter College. In addition, computer science majors and students enrolled in CSCI courses can obtain an account on the Computer Science Department Network. More information can be found on the Computer Science Department's website. Students should contact the instructor if they require department computing accounts and do not currently have one. Students should also contact the instructor for any necessary computing resources (e.g., laptops).

GitHub Classroom

Project submissions will be made via GitHub Classroom. Please join via the invitation link. When signing up, please match your EMPLID to your GitHub account. Notify the instructor immediately if you do not see your EMPLID.

Project Material Submission

All source code and documentation of your final projects will be made via your GitHub repository. Your repository must contain a `README.md` file that describes how to use your project. You may also utilize the repository wiki for additional documentation.

Git and GitHub Tutorials

Please complete the following tutorials:

- gittutorial
 - Send me a compressed version of the repository you have created.
- GitHub Hello World
 - Send me:
 1. A link to the repository you have created.
 2. A link to the (merged) pull request you have created.

Counseling & Wellness Services

Counseling & Wellness Services (CWS) provides mental health, health and wellness services aimed at enhancing students' quality of life and maximizing personal and academic growth and development. More information can be found on the Counseling & Wellness Services website.

Special Needs

Students with special needs should see me for accommodation.

ADA Compliance

In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and / or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical and / or Learning) consult the Office of Accessibility located in Room E1124 to secure necessary academic accommodations. For further information and assistance please call (212-772-4857)/TTY (212-650-3230).

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education.

FERPA gives parents certain rights with respect to their children's education records. These rights transfer to the student when he or she reaches the age of 18 or attends a school beyond the high school level. Students to whom the rights have transferred are "eligible students."

- Parents or eligible students have the right to inspect and review the student's education records maintained by the school. Schools are not required to provide copies of records unless, for reasons such as great distance, it is impossible for parents or eligible students to review the records. Schools may charge a fee for copies.
- Parents or eligible students have the right to request that a school correct records which they believe to be inaccurate or misleading. If the school decides not to amend the record, the parent or eligible student then has the right to a formal hearing. After the hearing, if the school still decides not to amend the record, the parent or eligible student has the right to place a statement with the record setting forth his or her view about the contested information.
- Generally, schools must have written permission from the parent or eligible student in order to release any information from a student's education record. However, FERPA allows schools to disclose those records, without consent, to the following parties or under the following conditions (34 CFR § 99.31):
 - School officials with legitimate educational interest;
 - Other schools to which a student is transferring;
 - Specified officials for audit or evaluation purposes;
 - Appropriate parties in connection with financial aid to a student;
 - Organizations conducting certain studies for or on behalf of the school;
 - Accrediting organizations;
 - To comply with a judicial order or lawfully issued subpoena;
 - Appropriate officials in cases of health and safety emergencies; and
 - State and local authorities, within a juvenile justice system, pursuant to specific State law.

Schools may disclose, without consent, "directory" information such as a student's name, address, telephone number, date and place of birth, honors and awards, and dates of attendance. However, schools must tell parents and eligible students about directory information and allow parents and eligible students a reasonable amount of time to request that the school not disclose directory information about them. Schools must notify parents and eligible students annually of their rights under FERPA. The actual means of notification (special letter, inclusion in a PTA bulletin, student handbook, or newspaper article) is left to the discretion of each school.

For additional information, you may call 1-800-USA-LEARN (1-800-872-5327) (voice). Individuals who use TDD may use the Federal Relay Service.

Or you may contact us at the following address:

Family Policy Compliance Office U.S. Department of Education 400 Maryland Avenue, SW Washington, D.C. 20202-8520

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: <http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf>

Instructor Biography

Raffi Khatchadourian is an Assistant Professor in the Computer Science Department at Hunter College and the Graduate Center of the City University of New York (CUNY). He received his MS and PhD degrees in Computer Science from Ohio State University and BS degree in Computer Science from Monmouth University in New Jersey. Prior to joining CUNY, he was a Software Engineer at Apple, Inc. in Cupertino, California, where he worked on Digital Rights Management (DRM) for iTunes, iBooks, and the App store. He also developed distributed software that tested various features of iPhones, iPads, and iPods. His research focus is techniques for automated software evolution, particularly those related to automated refactoring and source code recommendation systems with the goal of easing the burden associated with correctly and efficiently evolving large and complex software.

Appendix A: Project Grade

NOTE: This appendix is best viewed with something like GitHub with MathJax.

The number you receive for your project grade is calculated as follows: Let \mathcal{G} be the set of people in your group, and G be the overall

grade of the final project (a number between 0 and 30). Let $g_{i,j}$, $i \neq j$, $i, j \in \mathcal{G}$ be the grade i gives to j . Then j 's grade on the project is $G_j = G \times \sum_{\substack{i \neq j \\ i \in \mathcal{G}}} \left(\frac{g_{i,j}}{\sum_{\substack{i \neq j \\ i \in \mathcal{G}}} g_{i,j}} \right)$