

CSCI 40500/77100: Software Engineering/Contemporary Application Development

3 hrs, 3 credits. Computer Science, City University of New York (CUNY) Hunter College.

Table of Contents

- Details
- Course Description
- Outline and Schedule of Course Topics
- Prerequisite
- Textbook
- Grading
- Key Dates
- Homework
 - Notes
- Quizzes
- Exams
- Attendance
- Academic Violations
- Discussion and Q&A
- Email
- Bulletin Board
- Computer Science Facilities & Labs
- Counseling & Wellness Services
- Special Needs
- ADA Compliance
- Family Educational Rights and Privacy Act (FERPA)
- Sexual Misconduct
- Syllabus Change Policy
- Instructor Biography
- Credits

Created by gh-md-toc

Details

Field	Value
Instructor:	Raffi Khatchadourian
Office:	1090H Hunter North Building
Email:	raffi.khatchadourian@hunter.cuny.edu
Phone:	(212) 650-3988
Office hours:	F 3:00-5:00 pm or by appointment
Semester:	Spring 2020

Field	Value
Section:	CSCI 40500-01/CSCI 77100-01
Grader:	Yiming Tang
Grader office hours:	W 10-11 am
Office:	1000G Hunter North Building

Course Description

This course is intended to be an introductory survey on the fundamental concepts and principles that underlie current and emerging methods, tools, and techniques for the efficient engineering of high-quality software systems. This may include the understanding and appreciation of problems in large-scale software development such as functional analysis of information processing systems, system design concepts, timing estimates, documentation and system testing.

Software Engineering (SE) is concerned with all facets of software development, from the early stages of requirements engineering to maintaining the system after it has been deployed. This includes technical processes of software development as well as activities such as software project management and the development of tools, methods, and theories to support software development. This course is not a “programming” course per se, instead, it focuses on surveying some of the critical facets of SE that may be less familiar to students of computer science, such as identifying a development process appropriate to the circumstances, eliciting and documenting requirements, using reviews and inspections plus machine-based testing in software development, understanding software evolution in large, complex systems, issues associated with developing dependable software systems, and configuration management of large systems developed by multiple engineers.

Outline and Schedule of Course Topics

The following topics will be covered in the given order. Please note that this schedule is tentative and is meant to serve only as a guide. “Handouts” means that notes and/or readings will be given in class. Although there are fourteen class meeting weeks, one week has been reserved for a midterm and final exam review.

Week(s)	Topic	Reading Chapter(s)
1	Introduction	1
2	Software processes	2
3	Agile software development	3
4-5	Requirements engineering	4
6	System modeling	5
7	Architectural design	6
8-9	Design and implementation	7
10-11	Software testing	8

Week(s)	Topic	Reading Chapter(s)
12	Software evolution	9
time permitting	Software analysis and automated refactoring	Handouts
time permitting	Configuration management	25

Prerequisite

CSCI 33500/equivalent.

Textbook

Software Engineering, Sommerville, I. ISBN 9780133943030. 2016, Pearson Education. 10th edition. There is a paperback version available with ISBN 1292096136. A copy has been requested for reserve in the library. Please note that the **10th edition** is required.

Grading

Category	Percentage
Assignments	15%
Quizzes	10%
Participation	5%
Midterm Exam	35%
Final Exam (non-accumulative)	35%

Key Dates

Event	Date
Midterm Exam	March 27 (tentative)
Withdrawal Deadline	April 1
Recess	April 8 - April 16
Reading Day	May 15
Final Exam	May 22 5:10-7:10 pm in North Bldg 1036

Homework

Homework will be assigned after each chapter read. It may include questions at the end of the chapter and/or short coding assignments depending on the material. Each will be assigned in Blackboard along with submission instructions. Assignments will be uploaded to Blackboard and code will be uploaded to GitHub classroom and submitted via gradescope. The exact instructions will follow.

Code must include command-line instructions on how to run the program.

Notes

- **Deadlines** and **due dates** for assignments will be assigned in class.
- **Late assignments will be penalized.**
- No extensions will be given for extra credit assignments.
- Assignments are the result of **individual effort** unless otherwise noted (e.g., group projects).

Quizzes

Quizzes will be given after each chapter read. Quiz deadlines will be given in class. No make-ups will be given for quizzes.

Exams

Test make-ups will be given if and only if:

- the request is made sufficiently in advance of the test, and
- the make-up is scheduled prior to the next class.

Attendance

Attendance is expected for *each and every class* meeting. The instructor will start the class on time, and students are expected to be present on time.

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). Academic violations will be pursued to the fullest extent possible, including failure from the course.

Discussion and Q&A

This term we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates and myself. Rather than emailing questions to me, I encourage you to post your questions on Piazza. If you have any problems or feedback for the developers, please email them.

Find our class page here and sign up for the forum.

Email

Emails to the instructor must be via a CUNY email addresses for FERPA reasons. Please post all class-related discussion on Piazza. 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 *CUNY 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.

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>

Syllabus Change Policy

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice. Students will find out about changes to the syllabus via class attendance.

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. Raffi's 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.

Credits

Portions of this syllabus are based off the syllabus used for the CEN 5035 Software Engineering Fall 2016 course of the Department of Computer Science & Engineering, University of Florida by Steve Thebaut.