

# CS 6063 (16038) - Software Engineering I

(Version 2)  
Fall 2018

## ***Instructor's name & title***

Professor Strauss, CCP  
Department of Computer Science and Engineering  
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## ***Office hour (2MT 10.048)***

Wednesday 11:00 – noon  
(or by appointment)

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## ***Graduate Assistant/Grader***

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## **Course Information**

### ***Course***

Graduate

### ***level credits***

3.0

## ***Class times and location***

Online (TBD)

## ***Prerequisites***

Graduate status

## **Objectives**

To learn software-engineering techniques that can be applied to practical software projects.

- a) **Understanding of the full** "software engineering" effort and alternative approaches
- b) **Technical emphasis** on requirements, design, development, measurement, and modeling
- c) **Understanding management** issues including software cost estimating and project management
- d) **Understanding process** applicable to the software development/integration cycle and maintenance
- e) **Impact of technology changes** on quality and development activities

## **Methods of Instruction**

The primary method of instruction is lectures supplemented with related assignments, readings, and projects

Weekly Lecture Hours: 3 | Weekly Lab Hours: 0 | Weekly Recitation Hours: 0

## **General Content**

The course emphasizes the full software-engineering approach with alternative approaches. Technical emphasis is on requirements, design, development and modeling. Management issues include software cost estimating and project management. Understanding the processes applicable to the software development/integration cycle and maintenance along with technology changes on quality and development activities is highlighted.

## **Project Presentation**

Each project team is required to deliver a formal in class presentation describing the technical details and processes (covering the system life cycle from idea generation to requirements elicitation through design

documentation). Presentation delivery, format, and content should be based on principle of a professional presentation. Presentation worksheets will be distributed faculty and peer evaluation. All team members are expected to participate in the presentation.

### ***Textbooks, Readings, materials***

#### ***Textbook***

R.S Pressman, **Software Engineering, A Practitioner's Approach**, Seventh Edition, McGraw Hill

Pressman - URL - <http://www.mhhe.com/pressman>

#### ***Supplementary readings***

Kruchten, Philippe - **The Unified Process – An Introduction**, Addison Wesley Longman, New York, 1999.

Rubin, Kenneth - **Essential Scrum**, Addison Wesley, New York, 2013

Cohn, Mike – **Succeeding with Agile**, Addison Wesley, New York, 2013

Humphrey Watts S., **Introduction to the Personal Software Process**, SEI Series in Software Engineering, Addison Wesley Longman, New York, 1997.

The instructor may distribute additional material.

### ***Course Policies***

**(Additional Policies posted at NYU Classes)**

#### ***Attendance/Lateness***

Students are expected to attend lectures. Attendance is required. In case of absence, the student is responsible for the material covered during that lecture. Absence from exams will be accepted **only** if the student notified the instructor or Academic Affairs prior to the exam

with an acceptable reason. A make-up exam will be given only for the exams not for quizzes.

### ***Class participation***

Class participation includes actively engaging in class dialog and discussions and formal oral presentations.

## ***Exams and Assessments***

### **Examinations**

A midterm exam and final exam will be given as shown on the schedule. The midterm exam covers material from the beginning of the semester up to the exam. The final exam concentrates on material from the midterm to the end of the course. However, because the foundation for the material covered in the second half of the course is based on the pervious material, the final exam should be viewed as being comprehensive with emphasis on material covered during the second half of the semester. Exam questions are based on material from the text, handouts and lectures.

### **Systems Project**

An essential requirement of this course is the systems project. Virtually all analysis and design activities are carried out in project teams, or groups, in which communication and cooperation are vital to success. The group project is intended to give students experience in performing systems development activities as part of a team.

The TA/Grader and I will be available for consulting with groups at all stages of the project. **Do NOT fall behind!** The project will be divided into milestones. The milestones are in the course schedule.

### **Academic dishonesty (Reference NYU and Poly Policies)**

Plagiarism, cheating, sharing of examination answers, submitting work done by others as your own, and all other forms of deception proscribed in University rules are forbidden. For the sake of your own dignity and self-esteem, it is better to get a low grade than to engage in dishonesty.

**See postings on NYU Classes**

## Grading: Weights and Scales

### Grades

Grades are based on two exams (midterm and final), class participation, and assignments. **All assignments must be turned in to receive a passing grade.** The weighing given to each of these factors is as follows:

Midterm Examination	30%
Final Examination	30%
Project	30%
Presentation	5%
Research Papers/Homework	5%

**Homework** will be assigned and marked. Performance on the homework will be used to assess grades for students who are on the **boundary** of a grade. Homework will be discussed in class. Class participation is also considered as part of the grade.

### Performance status

During the class lectures, the study material shown in the schedule will be discussed, including the questions at the end of assigned chapters. A portion of the grade will be based on answering these questions

### Withdrawal

You must formally withdraw from this course to avoid a failing grade. Failure to attend class or to submit work is not enough. Information about formal withdrawal is contained in the Schedule of Classes. After the last day to withdraw, requests that must be approved by the instructor. They will be approved upon presentation of convincing evidence that unforeseeable conditions beyond the students control prevent him or her from devoting sufficient time to meeting the requirements of the course.

## *Facilities and Resources*

### Computers availability & policies

All students are required to have a computer account. The Software Engineering laboratory is located RH 223

### *Course Calendar and Schedule*

Week	Date	Chapter	Topics	Assessment (due date)	
				Homework	Project
1	Week 1	Introduction, 1	Introduction		
2	Wee 2	2, 3	Processes Alternative Processes		
3	Week 3	5, 6	Requirements and Analysis	Assignment #1	Project Team Selection Forms
4	Week 4	7, 8, 9, Appendix 1	Modeling with UML		Project Proposals
5	Week 5	11, 23	Design with UML		
6	Week 6	UML	Implement with UML	Assignment #2	
7	Wee 7	Midterm Examination			Business Specification (3/15/2017)
8	Week 8	17, 18, 19	Testing with Metrics	Assignment #3, #4	
9	Week 9	Open Sources & COTS	Testing with Metrics	OKR	
10	Week 10	23, 25, 26	Estimating & Sizing		Requirement Specification
11	Week 11	27, 28	Scheduling and Risk Management	OKR	
12	Week 12		Q/A & Configuration Management		

13	Week 13	14, 15, 16, 22 Presentations	Presentations		Analysis
14	Week 14	Presentations	Presentations	OKR	
15	Week 15	Presentations	Presentations		
		Second Examination	Second Examination		

**You should take the practice quizzes that cover each appropriate chapter (at the above URL)**

### Course Outcomes:

- 1) Knowledge of different software development approaches.
- 2) Knowledge of modeling techniques
- 3) Knowledge of software development life cycle activities
- 4) Experience in sizing and costing software intensive systems
- 5) Major management strategies affecting development
- 6) Broad knowledge of analysis and design techniques
- 7) Importance of UML tools in modern systems

**Professional Ethics: Collaboration is not acceptable on individual assignments. As a minimum, a zero grade will be assigned to the effort.**

Software Engineering Laboratory is located on the second floor of Rogers Hall.