Syllabus
CSC144 Software Architecture
Professor Leon Tabak
Block 7
March 19, 2018 to April 12, 2018

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1 Our meeting times and places

- My office is in Law 206C.
- You may call me in my office at (319) 895–4294.
- You may send me electronic mail at l.tabak@ieee.org.
- I will be in my office and available to meet with you Monday through Friday from 3:00 p.m. until 3:30 p.m.
- We will all meet together in the laboratory in the mornings and in the classroom in the afternoons. Because our class is very large, we will divide ourselves into two groups for the laboratory. One group will meet in the laboratory from 9 a.m. to 10 a.m. The other group will meet in the laboratory from 10 a.m. to 11 a.m.

	Where	**When**
Laboratory	Law Hall 113	9 a.m. to 11 a.m.
Classroom	Law Hall 121	1 p.m. to 3 p.m.

2 Textbook

There is no textbook for this course. We will use free, online resources. I will ask you to create some on-line accounts to gain access to some of these resources.

Check Moodle regularly for links to other resources. I will add items (including examples, notes, solutions to exercises, and maybe some things that are just for fun) to Moodle throughout the term.

You may use the computers in our laboratory or your own computers for the exercises. If you have a laptop computer, I think that you will find it advantageous to use your own computer. To do so, you will have to install the Java SDK (Software Development Kit) and the NetBeans IDE.

The software that we will use is available at no cost on the Internet. Versions are available for computers that run the Microsoft Windows, Apple Macintosh OS X, and Linux operating systems.

3 Etiquette for the Classroom

Please show respect to your classmates, to me, and to the seriousness of our enterprise by exercising the following courtesies:

- Please give your attention to whomever is speaking. You cannot view unrelated pages on the Web and be part of our class' discussion at the same time.

- You learn from your classmates. Be generous in offering help to classmates in the laboratory. Take interest in your classmates' work. Encourage them. Compliment them for work that is well done. Give them a good audience when they stand at the front of the room to present their work. Show these courtesies to all of your classmates.

- Please do not interrupt the class by late entries or early departures. If you anticipate a need to be absent from all or part of one of our meetings, please notify me in advance of your anticipated absence.

- You may listen to music while working in the laboratory so long as you are still able to hear your name when called and you do not disturb neighbors.

- Please refrain from bringing food or drink into the classroom or laboratory. We can make reasonable exceptions for eating that is not noisy and foods that do not have strong smells.

  Acceptable beverages and foods include water, tea, and granola bars. Bringing breakfast to class is not courteous.

  Please clean up crumbs and spills. Please dispose of empty containers and leftovers.

- Please dress as you might for an employer in the software engineering industry. This does not mean fancy dress—you do not need to buy new clothes. The dress in most workplaces is casual. Just be neat.

  Please keep your shoes on. Wearing hoods, hats, or sunglasses (except when there is a medical reason for shielding the eyes) that hide your face is not courteous.

- Imagine that you are seeking employment. How will you present yourself to your prospective employer?

Imagine that you are now employed in a software engineering firm. How will you speak to your teammates, the head of your team, and your company's clients?

Imagine that your grandmother has purchased the company for which you work. She has joined you in the company's conference room to hear and see you walk through the code that you have written for the company (her company).

Are there some words that you will keep out of your vocabulary during this hour?

4 Policies

Cornell College is committed to providing equal educational opportunities to all students. If you have a documented learning disability and will need any accommodation in this course, you *must* request the accommodation(s) from the instructor of the course and no later than the third day of the term. Additional information about the policies and procedures for accommodation of learning disabilities is available on Cornell College's Web site.

Please also familiarize yourself with the college's statement on academic honesty and its policies for dropping courses.

5 Goals

You will become a more confident programmer. This course will prepare you for a study of algorithms and data structures.

We will give special attention to three of Cornell College's Educational Priorities and Outcomes:

- Reasoning—You will learn how to apply reason in the design, development, and testing of software.
- Communication—You will learn how to communicate with clients and teammates.
- Ethical behavior—You will earn how ethical conduct helps define professional practice in software engineering.

You will learn how to write programs with the Java language. You will learn how to use the Java API (application programming interface)—this is a library of components (classes, interfaces, methods, and constants) that you can use in your own programs.

You will gain experience using...

NetBeans is a powerful IDE (integrated development environment).

Javadoc is software that partly automates the composition and publication of documentation.

JUnit is software that partly automates the testing of your code.

MeisterTask, Jira is software that will help us schedule our work.

Mercurial is software that will track changes in our products as we develop them and give us a means to exchange code with teammates.

Bitbucket is a service through which we will publish our work.

All software engineers (I might be exaggerating just a tiny bit) use tools like these. Documentation, testing, project management—these skills are as important as the ability to compose algorithms and translate them into working code.

Teamwork means collaboration with partners, responsibility to partners, and the ability to explain our work to our partners. You will gain a deeper understanding of the importance of teamwork in software engineering. You will gain a familiarity with important disciplines and tools for making teamwork productive.

6 Projects

In the first week, I will ask you to create a program that draws a part of the Mandelbrot set or one of the Julia sets. I will provide code that will get you started. This project will give you each opportunities to create beautiful and unique images.

In the second week, we will begin writing an RSS reader. Your program will read and parse news from the Internet.

Options for the last part of the class include image processing programs (transformations of photographs) and graphics (programs that paint landscapes).

7 Grades

Experience presenting work to peers will be an important part of the course. Practice asking your teammates questions during their presentations, critiquing their decisions, and suggesting improvements to their code will also be an important part of your education during this term.

Each "graded exercise" will give you an opportunity to show the work that you have done in the week and to show your understanding of the examples we have studied together.

A graded exercise might include some mix of work that you do on your own, work that you do in collaboration with classmates, work that you do in the classroom and work that you do outside of the classroom.

It might include invitations to test something on the computer or look up something on the Internet. It might also include directions to recall things that we have learned together without the help of notes or published resources.

	Activity	**Points**
	Daily work	20
	Graded exercise 1 (Friday, 23 March 2018)	20
	Graded exercise 2 (Friday, 30 March 2018)	20
	Graded exercise 3 (Friday, 06 April 2018)	20
+	Graded exercise 4 (Wednesday, 12 April 2018)	20
		100