Introduction to Methods of Software Engineering
SE 101, Fall 2016

Patrick Lam

Brief Overview

This half-weight course introduces you to the Software Engineering programme and to engineering as a profession. The focus is more on soft skills (which are super important!) rather than hard technical skills, although you will still be writing software for the course project.

Objectives. By the end of this course, you will have demonstrated:

- writing meaningful paragraphs of English text;
- discussing and summarizing engineering professionalism and ethics case studies;
- discussing and summarizing intellectual property as it applies to you as a student, employee and entrepreneur, as well as the associated revenue models; and
- writing C code to control a Tiva C Series board (and committing it to a version control system).

Calendar Description.

> An introduction to some of the basic methods and principles used by software engineers, including fundamentals of technical communication, measurement, analysis, and design. Some aspects of the software engineering profession, including standards, safety and intellectual property. Professional development including résumé skills, interview skills, and preparation for co-op terms.

General Information

Course Web Page/git repository. The best way to pull course updates in one shot is by cloning the following repository:

https://github.com/patricklam/se101-f16.

You can also consult https://patricklam.ca/se101-f16. Some students prefer LEARN. We'll mirror updates on LEARN. And, consult Piazza for course discussions.

Course staff.

Instructor	Patrick Lam, se-director@uwaterloo.ca
Office Hours:	DC 2597C; Wednesdays 11:30–12:30, or by appointment,
	or if https://patricklam.ca/in says so.
What to call me:	"Patrick," or if you must: "Prof. Lam," or "Dr. Lam."
What not to call me:	"Mr. Lam"
Teaching Assistant	Rollen D'Souza, rs2dsouz@uwaterloo.ca
Office Hours:	SE lab, DC 2577; Tuesdays 16:00–17:00
Teaching Assistant (WEEF)	Abdallah Arar, anarar@uwaterloo.ca
Office Hours:	E2-1309; Mondays 11:30–12:30

Schedule

When & where: Lectures: T, 12:30–13:20, MC 1085; except:
           Thursday, Oct. 13, follows Tuesday schedule
           Oct. 18, midterm week, no lecture

Seminar: T, 13:30–14:20, MC 1085, usually not held; exceptions include:
           Sept. 13, Co-op session
           Sept. 20, Co-op session
           Oct. 4, Co-op session

Labs: Th, 11:30–13:20, CPH 1346, "open labs," but also:
           Sept. 22, introduction to Lab 1
           Sept. 29, Lab 1 demos (mandatory)
           Oct. 6, overview towards Lab Project
           Oct. 13, virtual Tuesday
           Oct. 27, feedback on proposals for Lab Project
           Nov. 3, Diversity 2
           Nov. 24, Lab Project demos (mandatory)

Textbook

None.

Grading Scheme

In-class quizzes + short assignments	30%
Lab 1	15%
Lab Project (teams of 2)	50%
Co-op	5%
"activity about the transition to Waterloo Engineering"	1% bonus

There will be 6 in-class quizzes or take-home assignments, as well as the writing assignment, resulting in 7 marks. I'll take your best 6 marks for your in-class quiz/short assignment mark. I'll announce the quizzes on Piazza the week before.

There will be a separate handout with more details on the Lab Project.

Due Dates

- Sep 19, 5:59PM: resume quiz on LEARN
- Sep 19, 5:59PM: schedule appointment with Abdallah for resume critique
- Sep 29: Lab 1 submission/demos
- Oct 20: Lab Project proposals
- Oct 25: Short writing assignment (1 page); details to follow
- Nov 24: Lab Project demos

Weekly Lecture Schedule

Here's my current best guess at the week-to-week lecture schedule for the term.

- Week 1: What is CS/what is SE? Peanut Butter & Honey sandwich exercise.
- Week 2: How to Student.
- Week 3: Intellectual Property / Startups / Money and the Internet.
- Week 4: Communication.
- Week 5: Communication.
- Week 6: no lecture (midterm week)
- Week 7: About large-scale Software Engineering (vs small-batch artisanal coding).
- Week 8: Security (guest lecture by Mahesh Tripunitara).
- Week 9: Program efficiency.
- Week 10: Professionalism/ethics case studies.
- Week 11: Professionalism/ethics case studies.
- Week 12: Licensing/standards/the environment.

I'm also going to incorporate a preview of your curriculum every week.

Policies

Collaboration. I encourage collaboration, but I condemn plagiarism: copying penalizes students who do the work. I will therefore be reporting any cases of plagiarism that I detect.

You are expected to collaborate within your team. Also, you may discuss ideas, design alternatives, and help each other debug small fragments of code. Each team must submit their own, independently-developed, code for each lab. A good heuristic is "look, but don't write:" you can look at other teams' code, but don't do that anywhere that you might be writing your own code.

To be precise, teams are not permitted to share code electronically or in written form.

Lateness:	No late submissions accepted.
Academic integrity:	http://uwaterloo.ca/academicintegrity/
Petition & Grievance:	http://secretariat.uwaterloo.ca/Policies/policy70.htm
Discipline:	http://secretariat.uwaterloo.ca/Policies/policy71.htm
Penalties:	http://secretariat.uwaterloo.ca/guidelines/penaltyguidelines.htm
Appeals:	http://secretariat.uwaterloo.ca/Policies/policy72.htm
AccessAbility:	https://uwaterloo.ca/disability-services/