CMPT 276 Class 00: Welcome to the Introduction to Software Engineering!

Dr. Jack Thomas
Simon Fraser University
Summer 2020
Welcome to CMPT 276: the all-online edition!

- Sorry about Monday...

- This course will be offered fully online as part of SFU’s social distancing policy for summer 2020.
What Is Software Engineering?

- **Software Engineering**: The theories, methods, and tools for professional software development.

- A discipline concerned with all aspects of software production, from early specification to maintaining systems while in use.
Who Am I?

• Dr. Jack Thomas (jackt@sfu.ca), Sessional Instructor.

Who Are Your TAs?

• Jetic Gu (jeticg@sfu.ca)
• Sayyed Hassan Shavarani (sayyedhassan_shavarani@sfu.ca)
• Golnaz Gharachorlu (golnaz_gharachorlu@sfu.ca)

Providing office-hour, question-answering, email-reading, and grade-determining services
Who Are You?

• Most likely a second-year Computer Science student.
• You’ve done some programming in C++ or maybe Python.
• Looking ahead to co-ops and other work opportunities.

• Note: not everyone fits this description, and that’s fine – good, even!
Prior Knowledge

• How to program in an object-oriented programming language.
  – We’re using Java, though if you know C++ it should be easy to pick up during Assignment 1.

• How to develop simple object-oriented applications
Class Discussion

• Let’s test our discussion capabilities!

• 1. What would be the hardest software system to create?

• 2. What is the greatest software success?

• 3. What is the worst thing computers are used for?
Course Topics

- **Goal**: A basic introduction to professional software development, where you learn to be part of a team.

- Course material is split into three topics:
  1. **Methodologies** (How to approach being a software developer)
  2. **Tools** (Technologies aside from code itself used to professionally develop software)
  3. **Java and Android** (the architecture we’ll be working with)
Some Official Course Topics

1. **Software Process:** software life cycle, Agile vs plan-driven development.
2. **Requirements:** system analysis and modeling, requirements specification
3. **High-level Design:** UML, architectural, design patterns
4. **Implementation:** coding style, code review, pair programming
5. **Quality assurance:** unit & integration testing
6. **Development tools** such as IDE, debugger, and revision control (Git/GitLab).
7. **Ethics** of software development
Some Less-Official Topics

• Getting Hired

• Labour Rights and Unions

• Job Benefits and Compensation (get dental!)

• Workplace Diversity and Culture

• The Realities of Working Software
Basic Info

• Course website: https://opencoursehub.cs.sfu.ca/jackt/grav-cms/cmpt276/home
  – Notes
  – Assignments
  – Project
  – Videos
  – Course Info

• Some textbooks on software engineering and Android are recommended, but not required.
Where To Contact Us and Get Help

• Both slides and lecture recordings will be available on the course website.
• Office hours will be over Discord.
• A class Piazza is available for discussions.
• Cmpt-276-d1-help@sfu.ca for appealing to the teaching team for help.
Grade Breakdown for the Course

• **Assignments** (15%): Three solo programming assignments, two weeks apart.

• **Group Project** (30%): In three iterations, each two weeks apart.

• **Midterm** (20%): Covers the first half of the course, June 29\textsuperscript{th}.

• **Final Exam** (35%): Covers the whole course, August 22\textsuperscript{nd}.
First Assignment

• Going up after class today, due May 25th
  May 27th.

• An introduction to Java programming and the
course’s workflow (JUnit, Git, IDEs, etc).

• Check the course website for the assignment
description and links for the Java style guide
  and Integrated Development Environment.
Group Project

• Will be kicked off six weeks in, after completing the three assignments, and will consist of three phases.

• The goal is to collaboratively develop a piece of software as a team.

• Groups of four will be randomly assigned.
Academic Integrity

• Professionalism tip: Don’t plagiarize!
• Don’t share code, take code from the internet, or resubmit old work.
• MOSS will be used to check code submissions for plagiarism.
• SFU’s Academic Honesty statement: http://www.sfu.ca/policies/gazette/student.html

No funny business, got it?

Image credit: https://www.britannica.com/plant/moss-plant
Special Thanks to Dr. Brian Fraser

• Credit for the course’s design. Many materials are derived from his work.

• He also produced most of the tutorial videos on our course website.
Recap – For Next Class

• Assignment 1 going up tonight. It’s due in two weeks, on Wednesday May 27th.

• Check out the course website, sign up to the Piazza, join the Discord.

• Watch the posted Java tutorial videos, maybe track down a recommended textbook.

• Next class: we actually get started on Software Engineering!