CSE 1020: Unit 0

Topic: Introduction

Instructor: Professor Richard Wildes

Outline

- **Overview**

- **Administrivia**

- **Practical advise**

Outline

- **Overview**

- **Administrivia**

- **Practical advise**

Overview

- **What is a computer?**

- **What is programming?**

- **What is computer science?**

- **What is software engineering?**

- **What is CSE 1020?**

What is a computer?

A device for data processing

- Capable of rapid and repetitive calculation
- Rely on programs that specify operations to follow.

Different from many common devices

- Which tend to be special purpose (cars, toasters)
- Instead, the same computer can serve many purposes
  - Depending on its program.

What is programming?

A computer program tells a computer

- The sequence of steps that are needed to solve a task
- Specifies these steps in extreme detail
- Software are programs together with documentation.

Computer programming

- Is the act of designing and implementing programs.
- Not a requirement for computer use.
- But, a key to unlocking its power.

What is computer science?

Scientific investigation of

- Structures for representing information
- Procedures for manipulating information
- Abstraction
  - Creating the right model for a problem
  - Devising mechanizable techniques for solving it.

Its concerns include

- Making programming easier
- Making software more reliable
- Making computers more autonomous/intelligent
- Understanding the limits of computation
- …

What is software engineering?

Engineering

- Systematic application of scientific knowledge…
- in creating and building cost-effective solutions…
- to practical problems.

Software engineering

- That form of engineering…
- which applies principles of computer science and mathematics…
- to software problems.

What is CSE1020?

Introduces techniques for developing quality software

- Correct with respect to specification.
- Readily comprehended and modified by others.

Provides conceptual foundations for

- Software engineering
- Abstraction, design and analysis
- Object oriented programming

Makes use of

- Java programming language
- UNIX operating system
- Internet tools

What is CSE1020?

Organization

- CSE 1020 has lecture, lab and reading components
- These components are complementary.
- All three components are important.
- Students are responsible for all material presented in all components.

Lectures & readings

- Cover the basic course material …
- … but are complementary in presentation
- … and make use of different examples.

Labs

- Provide a more hands on approach.

What does Professor Wildes do when he's not teaching 1020?

**York University
Computer Vision Laboratory**

www.cs.yorku.ca/vision

Laboratory Snapshot

- Principle investigator: Richard Wildes
- Students/staff: 2 PhD; 1 MSc; 1 RA; 1 visiting scientist
- Research areas
  - Basic: Stereo; Motion; Spatiotemporal analysis
  - Applications: 3D modeling; Surveillance; Vehicle guidance; Medical image analysis
- Research funding: ~$100K (2012)
  - DRDC, GM, MDA, NSERC, OCE
- Generous space in CSE building

12

Outline

- Overview

- **Administrivia**

- Practical advise

Enrolment

Computer Science Undergraduate Office (1003 Lassonde)

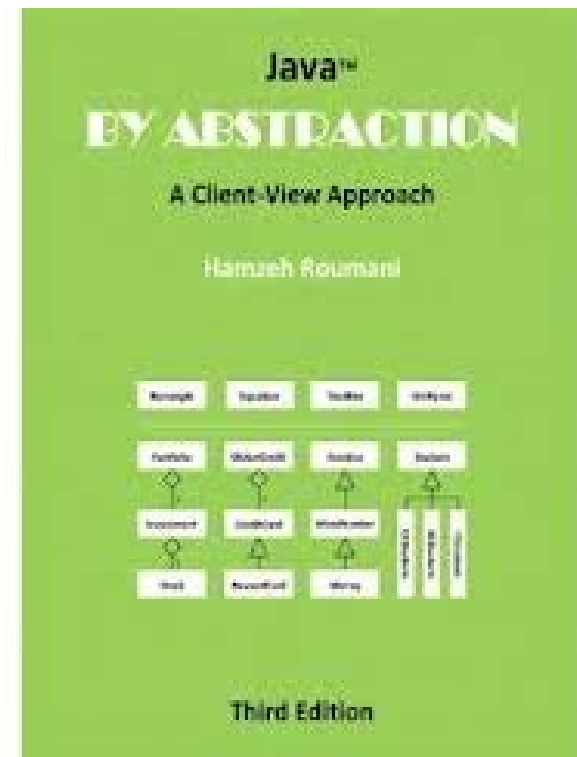- Manages enrollment.
- Professors cannot enrol you.

Lab

- Be sure to enrol in the lab, as well as the course.

Required materials

Textbook

- Java by Abstraction A Client-View Approach 3rd Edition, Hamzeh Roumani (2010).

- Available in the York University Bookstore, York Lanes.

- A copy also is in reserve in the Steacie Library

Teaching assistants

Course lab

- Teaching assistant clarifies weekly topics and provides assistance with eChecks.
- Informal, interactive format.

Prism lab (Lassonde)

- Roaming for short questions.

Office hours

- For longer questions and discussions.
- Hours & location: See course website syllabus.

Grades

Weight distribution

- 10%: eChecks (as assigned with labs)
- 20%: Lab test #1
- 20%: Lab test #2
- 20%: Midterm written exam
- 30%: Final written exam

Web access

Course

- http:// www.cse.yorku.ca/course/1020

Provides on-line documentation of course

- Overview
- Syllabus
- Schedule
- What's new
- Resources (useful links, e.g., to APIs)
- Policies
- FAQs
- …

Schedule

Week-by-week break out of course

- Lectures
  - Notes
  - Example code
- Labs
  - Assigned eChecks
- Readings
  - Assigned chapters from textbook
- The schedule is *tentative* and will be updated depending on how our particular course unfolds.
- Click "Schedule" in the sidebar on the course homepage.

Policies and FAQs

Policies & Frequently Asked Questions (FAQ)

- Follow the sidebar links on the course website.
- Make these your first resource as questions arise in your mind.
- Indeed, course policy is that professors need not respond to question with answers on the policies link.
- Moreover, students are held responsible for *all* information presented
  - publically in lecture
  - on the course website
  - in the textbook.

Practical advise

- **Read text; attend lecture; review.**

- **Attend the labs.**

- **Make CSE 1020 your priority.**

- **Have a passion.**

Summary

- **Overview**

- **Administrivia**

- **Practical advise**