CS 240 – Data Structures and Data Management

Module 0: Administrivia

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Based on lecture notes by many previous cs240 instructors

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What is this course about?

"*merge-sort* is a recursive algorithm that solves the Sorting Problem in $O(n \log n)$ worst-case time"

- These terms should all be familiar to you.
  (But we will review them briefly, and review 'O' in-depth.)
- This statement should be familiar from CS136/CS145.
- Predecessor courses: Solve problems somehow, don't care much about run-time.
- This course: Want to be *efficient*.
  - Also: more problems, more algorithms, more data structures, more ways to analyze algorithms.
  - Focus on how to store data and how to manipulate it.
  - Strong emphasis on theoretical arguments, proofs.

Course Information

- Course Webpage: `http://student.cs.uwaterloo.ca/~cs240/`

  Primary source for up-to-date information for CS 240.
  - Lecture slides / Course notes (basically a textbook)
  - Assignments / Solution sketches
  - Course policies

- Main learning resource: Lectures and course notes

- Course notes available in protected area of web page
  - Chapter X roughly corresponds to Module X.
  - Watermarked; do not share the files.

  Other relevant textbooks listed on the webpage under Resources

Electronic Communication in CS240

Piazza: (link to it will be posted on web page)

- A forum that is optimized for asking questions and giving answers.
- You must sign up using your uwaterloo email address.
  - You can post to Piazza using a nickname though
- Posting (partial) solutions publicly is forbidden.

What to read how often?

- `piazza` is the main place for announcements. Read it daily.
- Web page updates occasionally (modules/chapters/assignments). Check every few days or when you need the material.
- LEARN used for optional material. Ignore if not interested.

Email: `cs240@uwaterloo.ca`

- For private communication between students and course staff.
- Send email from your uwaterloo email address, give Quest ID

Course Information

- Instructors: Mark Petrick, Éric Schost
  `mdtpetri,eschost [at] uwaterloo.ca`
  - Lectures, assignment design, modules, course notes
- Coordinator (ISC): Karen Anderson (she/her)
  `kaanders [at] uwaterloo.ca`
  - Main contact for paperwork (VIF, SDA, etc.)
- Assistants (ISA): Hexin (Hex) Guo, Maxwell (Max) Hunt, Prashanth Arun (part-time)
  `cs240 [at] uwaterloo.ca`
  - Main contact for questions, piazza, tutorial design and delivery
- Apprentices (IA): Matthew Regehr, Mushi (Calvin) Wang
  `cs240 [at] uwaterloo.ca`
  - Tutorial delivery
- Various other support personnel that you are unlikely to meet
- Office hours: see webpage

Course Information

- Lectures
  - 001: 01:00-02:20 (Petrick)
  - 002: 02:30-03:50 TTh (Petrick)
  - 003: 8:30-9:50 TTh (Schost)
  - 004: 10:00-11:20 TTh (Schost)
  - 005: 11:30-12:50 TTh (Petrick)

  } Same content. Same material.
- Tutorials
  - Fridays. Schedule $\rightarrow$ web page
  - Questions released beforehand (on webpage)
  - Sample solutions post-tutorial (on webpage)
  - Tutorial 0 will cover some LaTeX (for Assignment 0) and be delivered via videos on LEARN (Assignment 0 to learn LaTeX $\rightsquigarrow$ 6 bonus marks on assignment 1)
  - First in-person tutorial on Module 01 topics
- You can switch between sections *if* there are empty spaces.

Mark Breakdown

- Final Exam: 45%
  - TBA
- Midterm Exam: 24%
  - Tuesday, June 25, 4:30-6:20pm

Note: You must pass the *weighted average* of the midterm and the final assessments to pass the course

- Written Assignments 25%
  - 5 assignments each worth 5%, approximately every 2 weeks
  - All assignment to be submitted electronically as PDF via MarkUs
- Programming Questions: 6%
  - 2 assignments each worth 3%, after A2 and A4
- Due dates: Tuesdays at 5:00pm (plus a grace period).
  See web page for dates.
  No lates allowed. [VIF or SDA $\rightarrow$ credit transferred]
- Follow the *assignment guidelines* (on web page)
  Marks may be deducted for hard-to-read solutions.

Cheating

- Cheating includes: copying work of someone else or from internet, letting another student copy your work, excessive collaboration.
- Do *not* take notes during discussions with classmates. Wait ≥ 30 minutes before writing or typing.
- Standard penalties: a grade of 0 on the assignment you cheated on, and a deduction of 5% from your course grade. You will also be reported to the Associate Dean of Undergraduate Studies.
- Cheating punishes **YOU**!
  - Assignments are mainly meant as training for exams.
  - Assignments have relatively little weight.
  - Cheating on assignments $\Rightarrow$ do badly on exams $\Rightarrow$ fail course.
- Academic Integrity Declaration
  - Must be signed and submitted by student (twice in the term)
  - Not signed? $\rightarrow$ no credit for those assignments

Courtesy

- Cardinal rule: Do nothing that keeps your classmate from learning and understanding.
- Please silence cell phones before coming to class.
- Questions are encouraged—what is unclear to you probably is unclear for others as well! (But ask instructor, not your neighbour.)
- Avoid using laptops and other gadgets in class except for taking notes. Think about whether bringing your laptop to class will help you pay attention or not.

  Don't play games or watch videos that will distract your classmates.

Advice

- Attend the lectures and pay attention!
- Study the slides before the lectures, and again afterwards.
- Read the notes for details, and to get different perspectives on the course material.
- Keep up with the course material! Don't fall behind.

If you're having difficulties with the course, seek help – don't wait!