CS234: Data Types and Structures
Fall 2017
https://www.student.cs.uwaterloo.ca/~cs234/

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Welcome to CS234!
Course Overview

Four Questions
• Who am I? Who are we? --> Instructional Group
• Who are you? --> Intended Audience
• What are we doing? --> Course Objectives
• How will we do it? --> Course Delivery

References
• More details in course website
Who am I? -> Instructor

Luchen Tan
• Email: luchen.tan@uwaterloo.ca
• Office: DC 2129
• Office hours: Mondays 9:15AM – 11:15AM

I work in Data System Group.

My research interests:
• information retrieval
• data mining and data analysis
• information tracking in social media streams
Who are we? -> Instructional Group

Kevin Wu (IA)
• Email: kevin.wu@uwaterloo.ca
• Office: MC 4065
• Office hours: Wed. 1:30pm-2:30pm and Friday 2pm – 3pm
deals with MarkUs, answers questions about course material in person and via Piazza, handles remark requests

Chantelle Gellert (ISC)
• Email: ccgeller@uwaterloo.ca
• Office: MC 4011
deals with accommodations, illnesses, cheating cases, other course related communications
Who are you?

Intended Audience
• Non-CS major students
• Interested in learning more about computer science and programming
• Seeking to understand the source of potential improvements and efficiencies in programs
• Have passed CS 116 or CS 136
• Required for CS minor
What are we doing?

**Course Objectives**

- To understand the standard data structures and algorithms for basic computing problems in a language-independent setting
- To gain additional experience in program design and efficient implementation
- To analyze and compute the asymptotic time and space complexities of given algorithms
- To design and develop new data structures and algorithms for problems arising in other contexts
What are we doing?

The course is concerned with **efficiency**.

What aspects of good program design are important?

- use minimal resources (time, space)
  - elegant – simple solutions for difficult questions
- easy to understand, maintain, reuse, extend
  - modular, scalable
- correct, robust, secure
How will we do it?

Course Delivery

• Lectures will include
  • slides in pdf
  • some notes made on whiteboard
  • technical demonstrations
• Supplementary material on course website, e.g. sample Python code
• Assignments & solutions
• No labs
• Python review session:
  • Sept. 14th and 21st from 6:30pm to 9:00pm (MC 2065)
How will we do it?

Assignments

- Writing and Programming (Python 3) - submit to MarkUs
- Suggested Environment: Wing IDE
- 4 assignments each due on Friday at 4pm
- No late assignments will be accepted
- Accommodations for a missed assignment, midterm or final exam required valid Verification of Illness form.
- Must be completed individually
How will we do it?

Assignment Tips

If you have a challenging problem to solve, what are some good ways to approach it?

• focus your attention exclusively on solving the problem
• start early, so you have time to think about it
• try solve simpler versions of the problem
• break down the problem into easier subproblems
• ask what went wrong with your previous approach and try to correct it
How will we do it?

Grade Calculation

• Assignments 30%, each worth 7.5%
• Midterm Exam 25%
  
  Thursday November 2\textsuperscript{nd}, 4:30-6:20 PM
• Final exam 45%
• You must pass the weighted average of the midterm and final exam to pass the course
• Grades will be recorded on MarkUs – check them!
How will we do it?

Grade appeals

• Request remarking within two weeks of the marks being released
• Review the solutions to ensure that the error is in the marking, not your understanding
• Send an email to the IA with a request, including the rationale for the remark and the question(s) that need attention
• Be prepared for your mark to either increase or decrease, and for questions other than those specified to be remarked
• Contact the instructor ONLY IF you are not satisfied with the resolution of the remark request
How will we do it?

Some Important Dates

• Assignment 1: Due on Friday September 29th at 4PM
• Assignment 2: Due on Friday October 20th at 4PM
• Midterm Exam: Thursday November 2nd at 4:30-6:20PM
• Assignment 3: Due on Friday November 10th at 4PM
• Assignment 4: Due on Friday December 1st at 4PM
• Final Exam: to be scheduled by the Registrars’ Office
How will we do it?

Course Textbook
• *Data Structures and Algorithms Using Python* by Rance D. Necaise
  • Optional
  • Copies will be held on reserve at the DC library

Optional Python Resources
• Course Website “Python” page
How will we do it?

Piazza
- For general questions about
  - assignments
  - course material
  - any other question(s) that may be of interest to other students in the course
- Do not use it to discuss implementation details, code particulars
- Search similar questions and answers before asking
- When asking about an assignment question, put AxxxQyyy in your title, e.g. if you ask Question 2 on Assignment 1, include A1Q2 in the heading
- Expect answers within 24-48hrs during weekdays
How will we do it?

UW Values

• honesty, trust, fairness, respect and responsibility

Avoid Cheating

• Do your own work

• Do not try to look up answers to assignment questions on the internet (unless the question states that it is OK to do so)

• If you have a weird Python coding error, it is OK and smart to check online what the error means
How will we do it?

Academic Integrity
www.uwaterloo.ca/academicintegrity

Avoiding Academic Offences
http://www.math.uwaterloo.ca/navigation/Current/cheating_policy.shtml

Grievance
http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm

Discipline
http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm

Appeals
http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm

Note for students with disabilities
http://www.studentservices.uwaterloo.ca/disabilitiesformoreinformation