CS 2230: Computer Science II: Data Structures
Fall 2016

Class Schedule: 2.30–3.20 PM MWF at 101 BBE (Biology Building East)

Primary Instructor
Sukumar Ghosh, 201P MacLean Hall, 335-0732, sukumar-ghosh@uiowa.edu
Office hours: 10:30AM-12PM Mondays and Fridays, or by appointment.

Discussion Sections
Each student is also enrolled in a discussion section that meets once a week and will be led a TA as listed below:

- CS 2230: A01: 9:30-10:20 AM Thursday (66 Schaeffer Hall) [Led by *Adrian Pereira*]
- CS 2230: A02: 11:00-11:50 AM Thursday (22 Schaeffer Hall) [Led by *Dhruv Vyas*]
- CS 2230: A03: 12:30-1:20 PM Thursday (15 Schaeffer Hall) [Led by *Thamer Alsulaiman*]
- CS 2230: A04: 12:30-1:20 PM Thursday (221 Maclean Hall) [Led by *Kyle Diedrich*]
- CS 2230: A05: 3:30-4:20 PM Thursday (51 Schaeffer Hall) [*Adrian Pereira*]
- CS 2230: A06: 5:00-5:50 PM Thursday (60 Schaeffer Hall) [*Thamer Alsulaiman*]

Course Web Page
http://homepage.cs.uiowa.edu/~ghosh/
This page is also accessible from ICON/CANVAS

Teaching Assistants
The teaching assistants and discussion section leaders for this course will be

Adrian Pereira
    adrian-pereira@uiowa.edu (3:30-5:00PM (MW) 101N Maclean Hall)
Dhuv Vyas
     dhruv-vyas@uiowa.edu (1:00-2:00PM (MWF) 101 Maclean Hall)
Thamer Alsulaiman
    thamer-alsulaiman@uiowa.edu (6:00-7:30PM (T), 5:00-6:30PM(F), 101N Maclean Hall)
Kyle Diederich
    kyle-diederich@uiowa.edu (3:30-5:00PM (T), 10:30A-12:00PM (W), 101N Maclean Hall)

Please refer to the course webpage for the most up to date information, since office hours sometimes change as we settle into the semester.

Departmental Information
Department of Computer Science
Professor Alberto Segre is the DEO. His office is in 14 Maclean Hall

The Goal and Syllabus

Programs, in the course of performing computation, often need to store, query, and update large, or somewhat large, amounts of information. There are usually different ways in which the program can be designed to do this information processing. Some of these ways are good, and others not so good. In several contexts, this distinction is crucial – it can determine whether an application is useful or largely useless. In brief, then, the goal of this course is to learn that there are usually these different ways of doing the information processing, and to learn to be increasingly sensitive to the distinction between the good and the bad ways. The topics to be covered are as follows:

- Constructs in Java, the programming language we will use
- Algorithm complexity and Big-O notation
- Arrays, Linked lists
- Solving problems using recursion
- Searching and sorting
- Stacks, queues, lists and trees
- Priority queues, hash tables, binary search trees
- Graphs and basic algorithms on graphs

Textbook
Goodrich, Tamassia, and Goldwasser: Data Structures and Algorithms in Java (sixth edition), Wiley, ISBN 978-1-118-77133-4.

Prerequisites
Computer Science I (CS: 1210 / 22C:016/ ENGR 2730), Discrete Structures (CS: 2210 /22C: 019) is a corequisite if not taken as a prerequisite. Students who have not taken the prerequisite course may be administrative dropped from the course.

Grading
- Eight Home assignments (30%)
- Two quizzes (2x5%= 10%)
- Two in-class midterms (2x20%=40%), and
- One Final exam (20 %)

Homework will be assigned on Mondays so that you can make greater use of the TA discussion sections on Thursdays. Most of the assignments will involve programming in Java.

The policy on late homework is that you have a *quota of two days* for the entire semester that you may use for late submissions. So for example, there will be no penalty if you submit the fifth homework a day late, the seventh homework a day late, and the rest of the homework on time. We will not count fractional days – so if you are 10 minutes late, then you use one day from your quota. Once you use up your quota of two days, any homework submitted late will not be accepted and you will get 0 points for that homework.

Exam Dates
The midterms will be in our usual classroom and during our class on **Monday, Sep 26** and on **Monday, Oct 31**. The final will be during finals week, and the venue and the time will be announced later. (The Office of the Registrar will schedule the final exam)

Collaboration

No collaboration is allowed on the exams. For homework problems, limited collaboration is allowed and encouraged, assuming each of you has first spent some time (about 60 minutes) working on the problem yourself. However, you solution should not be a copy (whole or in part) of a fellow student. It will be assumed that each of you is capable of orally explaining the solution that you turn in (we may occasionally check that), so do not turn in something that you don't understand or can't explain.

Course Accounts

You will be assigned an account on the computer science department machines shortly, if you do not already have one. In addition, you will need your HawkId and password to access information about this course on CANVAS and to submit the assignments.

Administrative Home

The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall (see the CLAS Academic Policies Handbook at http://clas.uiowa.edu/students/handbook)

Electronic Communication

University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty, TAs and students should use this account for correspondences.

Accommodation for Disabilities

The University of Iowa is committed to providing an educational experience that is accessible to all students. A student may request academic accommodations for a disability (which includes but is not limited to mental health, attention, learning, vision, and physical or health-related conditions). A student seeking academic accommodations should first register with Student Disability Services (SDS) and then meet with the course instructor privately in the instructor's office to make particular arrangements. Reasonable accommodations are established through an interactive process among the student, instructor, and SDS. For more information, see http://sds.studentlife.uiowa.edu.

Academic Honesty

All CLAS students have, in essence, agreed to the College's Code of Academic Honesty:

"I pledge to do my own academic work and to excel to the best of my abilities, upholding the IOWA Challenge. I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty."

Any student committing academic misconduct will be reported to the College and placed on disciplinary probation or may be suspended or expelled (see CLAS Academic Policies Handbook).

Making a Suggestion or a Complaint

Students with a suggestion or complaint should first visit with the instructor (and the course supervisor), and then with the departmental DEO. Complaints must be made within six months of the incident. (See CLAS Academic Policies Handbook)