

Computer Engineering 12

Abstract Data Types and Data Structures

Spring 2014

Mondays, Wednesdays, and Fridays

10:30 am – 11:35 am, 11:45 am – 12:50 pm, and 1:00 pm – 2:05 pm

Instructors

Website: <http://www.cse.scu.edu/~atkinson/teaching/sp14/012/>

Instructor: Darren Atkinson
E-mail: datkinson@scu.edu
Office hours: Tuesdays, 1:15 pm–2:15 pm, and Wednesdays, 9:30 am–10:30 am
Office: EC 245

Instructor: Simon Koo
E-mail: skoo@scu.edu
Office hours: Mondays, Wednesdays, and Fridays, 1:00 pm–2:30 pm
Office: EC 201C

Teaching Assistants

Teaching assistant: Doug Renfro
E-mails: drenfro@scu.edu
Lab hours: Mondays, Tuesdays, and Wednesdays, 2:15 pm–5:00 pm

Teaching assistant: Michael Ruiz
E-mails: mruiz@scu.edu
Lab hours: Thursdays, 9:15 am–12:00 pm, Thursdays and Fridays, 2:15 pm–5:00 pm

Teaching assistant: Meenakshy Harikumar
E-mails: mharikumar@scu.edu
Lab hours: Mondays and Tuesdays, 2:15 pm–5:00 pm

Teaching assistant: Chen (Eric) Sun
E-mails: csun@scu.edu
Lab hours: Wednesdays, 2:15 pm–5:00 pm

Teaching assistant: Ajay Gurunathan
E-mails: agurunathan@scu.edu
Lab hours: Thursdays and Fridays, 2:15 pm–5:00 pm

Grading

Lecture

Midterm exams: 50% (4/23 and 5/14)

Final exam: 50% (6/9 or 6/11)

Laboratory

Lab attendance: 10% (each and every week)

Programming projects: 90% (4/6, 4/20, 5/4, 5/18, 6/1, 6/7)

Textbooks

Required: Gilberg and Forouzan, *Data Structures – A Pseudocode Approach with C*, Brooks/Cole.
Recommended: Kernighan and Ritchie, *The C Programming Language*, 2nd edition, Prentice Hall.

Pathways

This course is associated with the *The Digital Age* Pathway. If you declare this Pathway, you may use a representative piece of work from this course as one of the Pathway materials you will upload during your junior or senior year.

Learning Outcomes

Students will . . .

1. Discuss the relationships between an abstract data type and a data structure.
2. Separate an abstract data type into an interface and an implementation.
3. Compare and contrast simple container data types (lists, sets, maps, priority queues).
4. Compare and contrast classic data structures (arrays, hash tables, linked-lists, trees, graphs).
5. Implement the classic data structures in a low-level language such as C.
6. Know the average-case and worst-case running times for common operations (insertion, deletion, retrieval, minimum, maximum) on the classic data structures.
7. Compare and contrast classic searching and sorting algorithms.

Policies

Disability Accommodation Policy

To request academic accommodations for a disability, students must be registered with Disabilities Resources located in Benson, room 216. If you would like to register with Disabilities Resources, please visit their office in Benson 216 or call (408) 554-4109. You will need to register and provide professional documentation of a disability prior to receiving academic accommodations.

Academic Integrity Policy

The University is committed to academic excellence and integrity. Students are expected to do their own work and to cite any sources they use. **A student who is guilty of a dishonest act** in an examination, paper, or other work required for a course, **or who assists others in such an act**, may, at the discretion of the instructor, **receive a grade of F for the course**.

In addition, a student found guilty of a dishonest act may be subject to sanctions up to and including dismissal from the University as a result of the student judicial process as described in the *Community Handbook*.

A student who violates copyright laws, including those covering the copying of software programs, or who knowingly alters official academic records from this or any other institution is subject to similar disciplinary action.

Exam Policy

You are free to attend either class period for lectures, but you must take the exams in the class period for which you are registered. There will be no exceptions to this policy.