CSC 220 Data Structures

Spring 2023

Computer Science Department
San Francisco State University

Instructor : Qun Wang
Office Hours : Thursday: 10-11:00am (Zoom)
Office: Thornton Hall 965
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References:

- *Data Structures and Abstraction with Java*, **4th/5th Edition**, by Frank Carrano, Prentice Hall 2015
- Any Java programming language book
- *Data Abstraction and Problem Solving with C++*, 5th Edition, by Frank Carrano, Addison Wesley 2007
- *Object, Abstraction, Data Structures and Design Using Java*, by Koffman and Wolfgang
- *Oracle/Sun Java API docs:* http://download.oracle.com/javase/tutorial/collections/index.html

Pre-requisite:

CSC 210 with a grade of C or better

Learning Outcome:

At the end of this course, students will

- Have basic knowledge of various data structures such as ADT bag, Stack, Queue, Tree, etc.
- Gain hands-on experience in java based programming projects by using different data structures.

Course Expectations:

The students are expected to attend every class, actively and constructively participate in class discussions, do the readings assigned for class, and complete all homework and project assignments on time.

Grade:

- 35% - 4 to 5 programming projects
- 0% - Home Works (Solutions will be given)
- 10% - Class attendance
- 25% - Test I (Midterm Exam)
- 30% - Test II (Final Exam Date: May 25 2023)

At the end of the semester, each student will receive a final score out of 100, which will then be converted to a letter grade.

Assignments:

There will be four homework assignments and 4-5 lab assignments in this course. Late project penalty: Students are allowed to make late submission, 10% per day (up to 5 days). No late project will be accepted after 5 days. For the last programming project, I will not accept late project!

Exams:

The course has one mid-term exam and one final exam. Students will be responsible for material covered both in the readings and in the lectures. Attendance is therefore recommended as not all class discussions will be covered in the text. If you are unable to attend the final exam, you MUST contact the instructor at least one week before the exam. If you have acceptable and documented excuses, you may be given a make-up exam. Any other exam absence will result in a zero for that grade.

Course Outline:

Basic Java programming language; Java Collections API; Recursion; Advanced Java Topics; Intro. to analysis of algorithms; Intro. to sorting & Searching; Trees & Binary Search Trees; Hashing; Heaps; Abstract Data Types & Implementations: Bags, Lists, Stacks, Queues, Deques, Priority Queues, Dictionaries/Tables

Disability access

Students with disabilities who need reasonable accommodations are encouraged to contact the instructor. The Disability Programs and Resource Center (DPRC) is available to facilitate the reasonable accommodations process. The DPRC is located in the Student Service Building and can be reached by telephone (voice/415-338-2472, video phone/415-335-7210) or by email (dprc@sfsu.edu).

Student disclosures of sexual violence

SF State fosters a campus free of sexual violence including sexual harassment, domestic violence, dating violence, stalking, and/or any form of sex or gender discrimination. If you disclose a personal experience as an SF State student, the course instructor is required to notify the Title IX Coordinator by completing the report form available at http://titleix.sfsu.edu, emailing vpsaem@sfsu.edu or calling 338-2032.

To disclose any such violence confidentially, contact:

- The SAFE Place - (415) 338-2208; http://www.sfsu.edu/~safe_plc/
- Counseling and Psychological Services Center - (415) 338-2208; http://psyservs.sfsu.edu/
- For more information on your rights and available resources: http://titleix.sfsu.edu