

ESE554 Computational Models for Computer Engineers Fall'21
Dept. of Electrical and Computer Engineering
SUNY Stony Brook

Instructor: Chi Chen, email: Chi.Chen.1@stonybrook.edu

Class Meetings: Tuesday 6:30 pm - 9:20 pm, STALLER CT 3220

Office Hours: Thursday 6:30 pm - 10:30pm, Light Engr 208

Book (required)

Robert Lafore, Data Structures and Algorithms in Java (2nd Edition), ISBN 13: 075 2063324530, ISBN 10: 0672324539

Course Outline

This course is preparatory for engineering practice and advanced study in computer engineering. It is intended to provide the students with basic data structure background and actual programming implementation for solving engineering problems. Issues on basic data structures and common algorithms to computer engineering will be discussed. The presentation is intended to motivate and encourage applications of the course material to solving practical engineering problems.

Code examples will be given in Java so object oriented programming experience (e.g., Java or C++) is required, for both homework and exam.

The following topics will be covered:

- Arrays
- Simple and advanced sorting
- Linked lists
- Recursion
- Stacks and queues
- Binary trees
- Hash tables
- Heaps
- Red black trees
- Graphs and weighted graphs
- Complexity analysis

Grading System

There is a final exam. The course grade will be computed as follows:

Assignments: 40% Final Exam: 60 %

Grades are assigned based on absolute percentage of total marks as below

(This policy is subject to change).

A : 91—100 , A- : 86—90 , B+ : 81—85, B : 76—80, B- : 71--75

C+ : 68—70, C : 64—67, C- : 61—63, D+ : 56—60, D : 51—55, F : 0--50

Note1

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact the Student Accessibility Support Center, ECC (Educational Communications Center) Building, Room 128, (631)632-6748 .They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

Note2

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Any suspected instance of academic dishonesty will be reported to the Academic Judiciary. For more

comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary/>

Note3

The University at Stony Brook expects students to maintain standards of personal integrity that are in harmony with the educational goals of the institution; to observe national, state, and local laws and University regulations; and to respect the rights, privileges, and property of other people. Faculty are required to report disruptive behavior that interrupts faculty's ability to teach, the safety of the learning environment, and/or students ability to learn to Judicial Affairs.

Note4

Covid-19 policy—please refer to school policy <https://www.stonybrook.edu/policy/policies.shtml?ID=626> and/or any other updates