ESE554 Computational Models for Computer Engineers (Fall 2016)

1. Course Staff, Hours and Schedule

Name	Email	Office Hours	Office	Phone
Fan Ye Instructor	fan.ye@ stonybrook.edu	Tu/Th 2-4pm	Light Engr 217	631-632-8393
TA: TBD				

2. Course Description

This 3 credit course covers basic data structures used in the solution of computer engineering problems. Topics include basic data structures and common algorithms: arrays, simple and advanced sorting, stacks and queues, linked lists, recursion, binary trees, hash tables, heaps and graphs, and computational complexity. The examples will be given in Java so object oriented programming experience (e.g., Java or C++) is required, for both homework and exam.

3. Student Learning Objectives

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.

4. Contents

Arrays, simple and advanced sorting, linked lists, recursion, stacks and queues, binary trees, red-black trees, graphs and weighted graphs, complexity analysis, and other data structure/algorithms for research in computer engineering.

5. Course Materials

Required:

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

6. Grading:

Homework 30%, midterm 30%, final 40%

7. Disability

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, 128 ECC Building (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation are confidential.

Students who require assistance during emergency evacuation are encouraged to discuss

their needs with their professors and Disability Support Services. For procedures and information, go to the following web site: http://www.ehs.sunysb.edu and search Fire Safety and Evacuation and Disabilities.

8. Academic Honesty

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/

9. Conduct

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.