CMPS 12B/M  
Introduction to Data Structures  
Winter 2018

12B Description:  Teaches students to implement common data structures and the algorithms associated with each data structure, through progressively difficult exercises. Topics include big “O” notation; pointers, recursion (induction), and dynamic allocation; linked lists and list processing; stacks, queues, binary trees and binary search trees; simple sorting techniques and simple search techniques. Students will gain a working knowledge of the elements of the Java and C programming languages. Prior experience with Unix is assumed.

Prerequisites:  CMPS 11 or 12A or CMPE 13. Concurrent enrollment in CMPS 12M is required.

12M Description:  Complements course 12B, gaining additional competence with a number of important software development tools, languages, and techniques. Included are advanced Unix features and utilities such as grep, find, diff, the shell, and pipes; C programs utilizing I/O, arrays, pointers, and structures; a scripting language to perform simple text and file manipulation; and the make utility. Concurrent enrollment in course 12B required.

Time and Place:  MWF  2:40 – 3:45 pm  Earth & Marine Sciences B206  
Class Webpage:  https://classes.soe.ucsc.edu/cmps012b/Winter18/

Instructor:  Patrick Tantalo  http://users.soe.ucsc.edu/~ptantalo/  
Office:  E2  255  
Office Hours:  MWR  10:00am – 12:00pm, or by appointment  
Email:  ptantalo@soe.ucsc.edu

Teaching Assistants:  
Isaak Cherdak (icherdak@ucsc.edu)  
Ryan Compton (rcompton@ucsc.edu)  
Shubhangi Tandon (shtandon@ucsc.edu)

MSI Learning Assistant:  
James Iwamasa (jiwamasa@ucsc.edu)

LSS Tutor:  
Xiangfeng Zhu (xzhu27@ucsc.edu)


Supplementary Texts:  

Coursework and Evaluation for CMPS 12B:  
• Programming Assignments (5) due at roughly 10 day intervals.  
• Midterm Exam 1 will be held Wednesday, January 31.  
• Midterm Exam 2 will be held Wednesday, February 28.  
• Final Exam will be held Tuesday March 20, 4:00-6:00 pm.
Coursework for 12B will be weighted as follows:
- Programming Assignments: 30%
- Midterm Exam 1: 20%
- Midterm Exam 2: 20%
- Final Exam: 30%

Coursework and Evaluation for CMPS 12M:
- Lab Assignments (8) due at roughly 7 day intervals.
- 12B Final Exam (Tuesday March 20, 4:00-6:00 pm) will also count in your 12L grade.

Coursework for 12M will be weighted as follows:
- Lab Assignments: 70%
- Final Exam: 30%

Grading scale for both 12B and 12M:
- A+: 97.0%-100%
- A: 93.0%-96.9%
- A-: 90.0%-92.9%
- B+: 87.0%-89.9%
- B: 83.0%-86.9%
- B-: 80.0%-82.9%
- C+: 76.0%-79.9%
- C: 70.0%-75.9%
- C-: 67.0%-69.9%
- D+: 64.0%-66.9%
- D: 61.0%-63.9%
- D-: 58.0%-60.9%
- F: 0%-57.9%

Letter grade boundaries may be lowered at my discretion in order to eliminate some borderline cases.

Accommodations for Students with Disabilities
UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me privately during my office hours or by appointment, preferably within the first two weeks of the quarter. At this time, I would also like us to discuss ways we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089, or by email at drc@ucsc.edu.

Academic Honesty:
The Baskin School of Engineering has a zero tolerance policy for any incident of academic misconduct. If cheating occurs, consequences may range from getting zero on a particular assignment to failing the course. In addition every case of academic misconduct is referred to the students’ college Provost, who sets in motion an official disciplinary process. Cheating in any part of the course may lead to failing the course, suspension or dismissal from the Baskin School of Engineering, or from UCSC.

What is cheating? In short, it is presenting someone else’s work as your own. Examples include copying another students’ lab or programming assignment, allowing your own work to be copied or in any way facilitating misconduct by others. You may discuss programming and lab projects with fellow students, but your collaboration must be at the level of ideas only. You may freely give and receive help on the UCSC
computer facilities, code editors and IDEs, the UNIX operating system, and on the proper use and syntax of the Java and C programming languages. You may also freely use any example code that is posted by me on this quarter's web page. However, you may not copy, paste, email, transfer or share in any way the source code for projects in this class. Go to https://www.ue.ucsc.edu/academic_misconduct to see the University's official policy on Academic Misconduct.