CMPS 12B/M
Introduction to Data Structures
Summer 2018 (June 25 – August 17)

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.

Time and Place: TTh 10:00am-12:30pm   Jack Baskin Auditorium 101
Class Webpage: https://classes.soe.ucsc.edu/cmps012b/Summer18/

Instructor: Patrick Tantalo   http://users.soe.ucsc.edu/~ptantalo/
Office: E2 255
Office Hours: TTh 2:00-5:00pm, or by appointment
Email: ptantalo@soe.ucsc.edu

Teaching Assistants:
Ryan Compton (rcompton@ucsc.edu)
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LSS Small Group Tutor:
Yanall Boutros (yboutros@ucsc.edu)

Recommended Text: *Data Abstraction and Problem Solving with JAVA* (3nd edition) by Frank M. Carrano and Janet J. Prichard. Pearson 2011 (ISBN 9780132122306). We will cover (roughly) the following sections: 3.1-3.5, 4.1-4.3, 5.1-5.3, 7.1-7.6, 8.1-8.5, 10.1-10.2, 11.1-11.3, 13.2.

Supplementary Texts:
C for Java Programmers: A Primer Charlie McDowell. Lulu.com 2007.
Your Unix (2nd edition) Sumitabha Das. McGraw-Hill 2006 (ISBN 978007250422).
Java By Dissection Ira Pohl and Charlie McDowell. Lulu.com 2006.

Coursework
Although 12B and 12M are separate courses, it shall be the policy of this class that the grade you earn in 12M will be identical to your grade in 12B. The following weights will determine this grade.

- 10% Lab Assignments (7) due at roughly 5 day intervals.
- 20% Programming Assignments (5) due at roughly 8 day intervals.
- 20% Midterm Exam 1 Thursday July 12, 10:00-11:05am (lecture to follow).
- 20% Midterm Exam 2 Thursday August 2, 10:00-11:05am (lecture to follow).
- 30% Final Exam Thursday August 16, 10:00am-12:00pm.

If you are taking just one of these courses, your grade will be calculated as follows. 12B only: You need not complete the Lab Assignments (though they are recommended). Programming Assignments will be

30% of your grade, otherwise same as above. <u>12M only</u>: Lab Assignments will be 70% of your grade, and the Final Exam will be 30%.

Grading scale:

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.

Some Important Summer Session Deadlines:
Last day to drop: Monday July 9 (week 3)
Last day to withdraw: Friday July 27 (week 5)