Course Syllabus
CMPSCI 182 – Data Structures/Program Design
Section #25380 – Spring 2017 Semester

Course Description: A review of primitive data types and their internal representation. Data structures built from primitive types such as arrays and records. Program design, Big O notation and algorithms: searching and sorting. Advanced data structures: stacks, queues, link lists, binary trees and hash tables.

When and Where: Lecture MW 2:00 PM – 3:20 PM, Lab MW 3:30 PM – 4:50 PM, HSLH-133

Please check the [CMPSCI 182 Canvas](#) website each week for:

- Important Announcements
- Weekly Lecture Topics
- Weekly Reading Assignments

Instructor: Benjamin Riveira
Office Hours: Mon & Wed 12:45 PM – 1:45 PM, Fri 9:00 AM – 11:00 AM Seco Hall 305E, Tue & Thur 11:00 AM – 12:00 PM, Canyon Country Campus Room 507 (best to email for an appointment).
Email: benjamin.riveira@canyons.edu (please use your @my.canyons.edu email address)
Web Page: http://www3.canyons.edu/faculty/riveirab/

Student Learning Outcomes: Evaluate and compare computer data structures, and analyze each data structure's impact on algorithms, program design and program performance.

Required Text: *Data Abstraction & Problem Solving with Java,* Janet J. Prichard and Frank M. Carrano, Prentice Hall, 3rd Ed., ISBN-10: 0-13-212230-8.

Grading:

Quiz 1	30 points
Quiz 2	30 points
Midterm Exam	40 points
Final Exam	60 points
Homework Assignment(s)	40 points
Total Possible Points	**200 points**

Needed Point Totals: **A** – 175 points, **B** – 150 points, **C** – 120 points, **D** – 100 points

Class and Lab Etiquette: Please silence all smartphones and electronic devices before entering the classroom. **No** smartphones or iPod/MP3 players are to be used during class lectures. Laptops and/or tablets may **ONLY** be used during lab time, or to take notes during lecture class. Browsing the Internet during lecture time is reserved for class-related web sites such as Blackboard. **Non-class related activities on lab computers are strictly prohibited**.

Academic Dishonesty: On exams and quizzes, <u>you are expected to submit only your own work</u>; discussion of answers with other students or use of electronic devices (smartphones, tablets, and laptop or lab computers) is **<u>forbidden</u>**. <u>Penalties for academic dishonesty on a single exam may result in a grade of "F" for the entire course.</u> If you have any doubts about what is considered dishonest, please ask the instructor for guidance before taking such a serious risk.

Attendance: Attendance will be taken for all class meetings at the beginning of class. Should a student be tardy, it is the student's responsibility to sign in after class to inform me of their presence. Otherwise, the student will be marked as absent for the class. **The instructor reserves the right to drop a student after 2 consecutive absences.** However, it remains the student's responsibility (not the instructor's) to officially drop the course if necessary. The student should **not** assume that she/he **will** be dropped after these absences, nor should she/he assume that she/he will **not** be dropped.

Quizzes and Exams: Quiz and Exam dates are posted well ahead of time. In-lab **Quizzes are normally open-book, open-notes.** In-class **Exams are normally closed-note, closed-book.** If you anticipate that you will not be able to take a Quiz or an Exam on the specified date, please notify the instructor as soon as possible, to reschedule. **<u>No makeups will be given for missed Quizzes or Exams.</u>**

Important Dates:

Add Deadline	2/19/17
Drop w/o "W"	2/19/17
Drop w/Refund	2/19/17
Drop Deadline	5/7/17
Quiz 1	3/1/17
Quiz 2	5/1/17
Midterm	3/29/17
Final Exam	5/31/17

Please be sure to avoid scheduling conflicts with these dates.

Course Schedule (subject to change)

Week	Date	Topics covered	Reading Assignment
1	2/6/17	Review Course Syllabus	
	2/8/17	Review of programming principles, Review of recursion	Chapters 2, 3
2	2/13/17	Data abstraction, **Project 1 assigned**	Chapter 4
	2/15/17	Data abstraction	
3	2/20/17	President's Day Holiday	
	2/22/17	Data abstraction	
4	2/27/17	Linked lists, **Project 2 assigned**	Chapter 5
	3/1/17	Linked lists, **Quiz 1** (In Lab)	
5	3/6/17	Linked lists	
	3/8/17	Linked lists	
6	3/13/17	Recursion	Chapter 6
	3/15/17	Recursion	
7	3/20/17	Stacks, **Project 3 assigned**	Chapter 7
	3/22/17	Stacks	
8	3/27/17	Stacks	
	3/29/17	**Midterm Exam** (In Lecture)	
9	4/3/17	Spring Break (Campus Closed)	
	4/5/17	Spring Break (Campus Closed)	
10	4/10/17	Queues	Chapter 8
	4/12/17	Queues	
11	4/17/17	Trees, **Project 4 assigned**	Chapter 11
	4/19/17	Trees	
12	4/24/17	Trees	
	4/26/17	Tables, **Project 5 assigned**	Chapter 12
13	5/1/17	Tables, **Quiz 2** (In Lab)	
	5/3/17	Tables	
14	5/8/17	Graphs, **Project 6 assigned**	Chapter 14
	5/10/17	Graphs	
15	5/15/17	Class Relationships	Chapter 9
	5/17/17	Class Relationships	
16	5/22/17	Efficiency and sorting	Chapter 10
	5/24/17	Efficiency and sorting	
Final	5/31/17	**Final Exam**	

*Recent California Legislation guarantees admission to a California State University (CSU) campus for any community college student who completes an "associate degree for transfer". The Associate in Science for Transfer (AS-T) in **Math**, **Physics**, **Computer Science**, and **Geology**, or the Associate in Arts for Transfer (AA-T) in **Geography**, is intended for College of the Canyons students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students must earn a C or better in all courses required for the major or area of emphasis. The College also offers associate degrees in **Biology**, **Computer Science**, **Engineering**, and **Math**. For more information on the suggested sequence of classes to be taken in order to obtain these degrees in two years, as well as information on when these courses are guaranteed to be offered, please visit: http://www.canyons.edu/Offices/MathScienceDiv/Pages/Classes.aspx*