COLLEGE OF THE CANYONS

26455 Rockwell Canyon Road, Santa Clarita, California 91355 • (661) 259-7800 • www.canyons.edu

Course Syllabus
CMPSCI 182 – Data Structures/Program Design
Section #28928 – Fall 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 Monday & Wednesday 2:00 PM – 3:20 PM, **Lab** Monday & Wednesday 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: Monday & Wednesday 12:45 PM – 1:45 PM, Friday 9:00 AM – 11:00 AM Seco Hall 305E (best to Email for an appointment).
Office Phone: ext. 3657
Email: benjamin.riveira@canyons.edu. *Please use your CoC Email address for all correspondence.*

Required Text: *Data Abstraction & Problem Solving with Java,* Janet J. Prichard and Frank M. Carrano, Pearson, 3rd Ed., ISBN: 9780132122306.

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

CMPSCI 182 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 put away your smart phones and other mobile devices before entering the classroom. **No smart phones are to be used during class lectures**. **This means absolutely no taking pictures, no texting, no calling, no social networking (including Snapchat), no playing Pokémon Go, or using apps of any sort and during class time.** If you absolutely must engage in any of these behaviors, please do so *outside* the classroom. Laptops or tablets may **ONLY** be used to work during lab class or to take notes (not pictures) during lecture class. Browsing the Internet during lecture is reserved for class-related web sites such as Canvas, *even if you are browsing on your own laptop or tablet*. Students are given *my* undivided attention during class time; I expect that you will give me *your* undivided attention in return. **Non-class related activities on lab computers are strictly prohibited**.

Academic Integrity: On quizzes and homework, you may refer to class notes and/or the PowerPoint slides provided by your instructor. However, discussing answers with other students during a quiz is **forbidden**. On exams, you are expected to submit only your own work; discussion of answers with other students or use of electronic devices not expressly approved by the instructor is **forbidden. Penalties for academic dishonesty on a single exam or quiz may result in a grade of "F" for the entire course.** Additionally, instances of academic dishonesty may be reported to the Dean of Students for further action. *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 3 absences during the semester. 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 administered online through Canvas and are *open-book, open-note*.** In-class **Exams are normally administered on paper and are *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. ***No makeups will be given for missed Quizzes or Exams***.

Homework Assignments: Homework assignments generally will be posted on the Canvas website along with a due date. ***Homework assignments submitted after the posted due date will not be accepted at all***. **All** homework assignments **must** be submitted through the Canvas website before or on the posted due date. I will not accept homework assignments that have been e-mailed to me, even if those homework assignment submissions are made "on time".

Important Dates:

Add Deadline	9/3/17
Drop w/o "W"	9/3/17
Drop Deadline	11/12/17
Drop w/Refund	9/3/17
Quiz 1	9/13/17 (in lab)
Quiz 2	11/6/17 (in lab)
Midterm	10/11/17 (in lecture)
Final Exam	12/6/17 (in lecture)

Please be sure to avoid scheduling conflicts with these dates.

Course Schedule (subject to change)

Week	Date	Topics covered	Reading Assignment
1	8/21/17	Review Course Syllabus	
	8/23/17	Review of programming principles, Review of recursion	Chapters 2, 3
2	8/28/17	Data abstraction	Chapter 4
	8/30/17	Data abstraction	
3	9/4/17	Labor Day Holiday (No Class Session)	
	9/6/17	Data abstraction	
4	9/11/17	Linked lists	Chapter 5
	9/13/17	Linked lists, **Quiz 1** (In Lab)	
5	9/18/17	Linked lists	
	9/20/17	Linked lists	
6	9/25/17	Recursion	Chapter 6
	9/27/17	Recursion	
7	10/2/17	Stacks	Chapter 7
	10/4/17	Stacks	
8	10/9/17	Stacks	
	10/11/17	**Midterm Exam** (In Lecture)	
9	10/16/17	Queues	Chapter 8
	10/18/17	Queues	
10	10/23/17	Trees	Chapter 11
	10/25/17	Trees	
11	10/30/17	Trees	
	11/1/17	Tables	Chapter 12
12	11/6/17	Tables, **Quiz 2** (In Lab)	
	11/8/17	Tables	
13	11/13/17	Graphs	Chapter 14
	11/15/17	Graphs	
14	11/20/17	Class Relationships	Chapter 9
	11/22/17	Class Relationships	
15	11/27/17	Class Relationships	
	11/29/17	Efficiency and Sorting	Chapter 10
16	12/4/17	Efficiency and Sorting	
	12/6/17	**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*