Course Information
Course Title: Computer Science II
Course Number: 076
Section**:** 201
Reg ID: 104040
Units**:** 3

Catalog Description

This course covers data abstraction and structures as well as associated algorithms for linear lists, stacks, queues, trees, and other linked structures, arrays, strings, and hash tables. Software engineering techniques are applied to the design and development of large programming projects in an object-oriented environment. Searching and sorting algorithms are also covered.

Course Prerequisites
ComSc 75 with a grade of "C" or better

Semester and Year: Fall 2020 – Synchronous Mode
Meeting Times: TTh 1:45 - 4:05 PM
Semester Start Date: August 31. 2020
Semester End Date: December 17, 2020
Last Date to Drop with a Refund: September 25, 2020
Last Date to Withdraw: November 23, 2020

Instructor Information
Name: Henry Estrada
E-mail address: Henry.Estrada@evc.edu
Virtual Phone: (408) 531-6161
Virtual Office Hours: TWTh 4:30 – 5:50 PM on Zoom

Required Course Materials:
Introduction to Java Programming and Data Structures, 11th Edition, by Liang, Pearson, 2018, ISBN: 978-0-13-467094-2. You may also use the 10th Edition of this book.

Student Learning Objectives
Upon completion of this course, students will be able to:

- Design and write programs that use each of the following data structures: arrays, records, strings, linked lists, stacks, queues, trees, and hash tables.
- Design, implement, test, and debug programs that employ simple recursive functions.
- Employ software engineering principles in the design, implementation, testing and debugging of large programs in an object-oriented programming language.
- Compare and contrast how analysis and design are performed in an object-oriented versus the procedural (or structured) programming paradigm.
- Explain how encapsulation, data hiding, and other abstraction mechanisms support reusability of software components.
- Evaluate tradeoffs in lifetime management, for example reference counting versus garbage collection.

Grading Policy

Grade Composition		Letter Grade
Discussion Posts	50 points	A = 450 points and above
Programs	150 points	B = 400 – 449
Two Examinations	150 points	C = 340 – 399
Programming Project	50 points	D = 280 – 339
Final Exam	100 points	F = Under 280 points
Total	500 points	

Discussion Posts

A weekly discussion prompt will be posted at the beginning of each week. Every Wednesday, students are expected to provide an initial response to the prompt (5 points). By the following Saturday, students will respond to two peers' posts to the same prompt (5 more points). Each response (initial and peer) must be written in complete grammatically correct sentences and include at least **two** references to the weeks material to substantiate their opinion. Late posts will receive a 10% reduction but will be accepted only up to one day late. Initial responses will always be due on **Wednesday by 11:59 PM**; peer responses will always be due on a **Saturday by 11:59 PM.**

Programming Assignments

You will be required to complete several programming assignments. All these assignments can be found on Canvas. The material you send me must contain the source code with comments that include your name, the assignment number, and a description of the problem you are solving. Programs will be graded on functionality, organization, readability (which includes the proper use of naming and indentation), and testing.

When you upload an assignment, you must name the files exactly as required in the assignment or you will be penalized on your grade for that assignment.

Examinations

The two examinations are scheduled for Thursday, October 1 and Thursday, November 5. Exams will cover the material in the text and the lectures. The final exam is scheduled for Thursday, December 17.

Attendance Policy

1. You are required to attend all sessions.
2. If you decide to drop this class, it your responsibility to withdraw from the course.
3. Five absences may cause you to be dropped if I don't hear from you.
4. Last day to drop without a "W" on your record is Sunday, September 13.
5. Last day to drop with a "W" on your record is Monday, November 23.

Other Policies

Assignments are to be submitted on or before their due dates (which are posted on Canvas). If turned in late, you will receive reduced credit; one letter grade per class session late up to two sessions late. There are no make-up examinations in this class. However, you may request to take a test at a different time, so long as your request is made in advance of the scheduled examination and is submitted in writing. Your request may or may not be granted. All examinations must be taken to complete this course.

Discussion about programming assignments is encouraged, but you must each do your own work. Cheating and plagiarism will be met with an F grade on the assignment. See the EVC catalog for the details on our College Honesty Policy as well as student disciplinary and grievance procedures.

Student Accessibility Services

The Americans with Disabilities Act (ADA) is a civil rights statute that prohibits discrimination against people with disabilities. The Student Accessibility Services Program at Evergreen Valley College is designed to allow students with disabilities to fully access and benefit from the general offerings and services of Evergreen Valley City College. The DSP office is located in the Student Center, room SC120. Contact Information is as follows:
Phone: 408-270-6447
Website: DSP Website
https://www.evc.edu/current-students/support-programs/dsp

Student Code of Conduct

Please review the following document for information regarding Student Code of Conduct guidelines, principles of discipline, standards of conduct, academic and classroom disciplinary procedures, student grievance procedures, and suspension and expulsion.
Please click here to access the Student Code of Conduct: EVC Student Code of Conduct
https://www.evc.edu/current-students/student-life/student-code-of-conduct

Sexual Harassment/Discrimination Policy

It is the policy of the San Jose/Evergreen Community College District to provide an educational environment in which no person shall be unlawfully denied in whole or in part full and equal access to, the benefits of, or be subjected to discrimination in any program or activity of the District. This policy prohibits discrimination on the basis of legally protected categories which include ethnic group identification, race, color, language, accent, immigration status, ancestry, national origin, age, sex, religion, sexual orientation, gender identity, marital status, medical condition, veteran status, physical or mental disability, or on the basis of these perceived characteristics or based on association with a person or group with one or more of these actual or perceived characteristics.
Please click here for further information regarding the district's Nondiscrimination Policy and sexual harassment procedure:
http://www.evc.edu/current-students/student-life/sexual-misconduct-title-ix

EVC Student Support Resources links:

1. EVC Student Loaner Laptop Program - Fall 2020: In an effort to provide a degree of certainty to all students and ensure that we have ample time to properly prepare, the San Jose Evergreen Community College District leadership team has determined that our students and community will be best served by continuing with remote instruction and operations through fall term 2020. Thus, Evergreen Valley College has instituted the EVC Student Loaner Laptop Program. This service is only available to currently enrolled EVC students who present a valid EVC Student Identification card. https://app.smartsheet.com/b/form/50b0f3fa8b184abdbe34236c8160723d

2. Virtual Campus Canvas and tutoring online tutorials: https://www.sjeccd.edu/virtual-campus

3. Student Program links to: CALWork, Extended Opportunity Program and Services, OASISS, STUDENT HEALTH SERVICES, Veterans Freedom Center, Youth Empowerment Strategies for Success (YESS) https://www.evc.edu/current-students/support-programs

4. Student Pantry & Resources: students are encouraged to attend the EVC Drive-Thru distribution on campus. The distribution will take place the First and Third Friday of Every month from 9:30 am-11:30 am inside of Parking Lot 1. Students can RSVP for Future Distributions: https://www.evc.edu/current-students/student-life/student-pantry-resources

5. Financial Aid Resources: https://www.evc.edu/current-students/financial-aid-and-scholarships/student-loans

6. Mental Health and Wellness Program: https://www.evc.edu/current-students/support-programs/student-health-services/mental-health-and-wellness-program

Study Hints

1. Read the assigned materials before attending class.
2. Type in example programs from the text and try them. Don't just copy and paste.
3. Feel free to extend or modify example programs in the text.
4. After the class meeting, re-read the assigned materials and review lecture notes.
5. Allow plenty of time for completion of programming assignments.
6. If this is your first online experience, expect to invest extra time to orient yourself to the course design and tools.
7. Block out time on your schedule to do the work.
8. Check in on discussions and try to contribute and share anything unique you have tried with your peers.

Please do not hesitate to ask for help when you need it.

Computer Science 76 Course Schedule & Content

Week	Chapter	Topics	Assignments
08/31 – 09/05	13	Abstract Classes and Interfaces	
09/08 – 9/12	17	Binary I/O	Assignment 1 on Abstract Classes is due 09/08
09/14 – 09/19	18	Recursion	Assignment 2 on File I/O Programming is due 09/17
09/21 – 09/26	19	Generics	Assignment 3 on Recursion is due 09/24
09/28 – 10/03		**Test #1 (October 1. 2020)**	Assignment 4 on Generics is due 00/29
10/05 – 10/10	20	Linear Lists, Stacks, and Queues	
10/12 – 10/17	21 & 22	Sets and Maps, Big-O Analysis	Assignment 5 on Stacks and Queues is due 10/13
10/19 – 10/24	22	Developing Efficient Algorithms	Assignment 6 on Maps is due 10/20
10/26 – 10/31	23	Sorting Algorithms and their Analyses	Assignment 7 on Efficient Algorithms is due on Thursday, 10/29
11/02 – 11/07		**Test #2 (November 5. 2020)**	Assignment 8 on Sorting is due on Thursday, 11/05
11/09 – 11/14	24	Implementing Linked Lists	
11/16 – 11/21	24 & 25	Stacks, Queues and Priority Queues, Introduction to Binary Trees	Assignment 9 Implementing Lists is due 11/17
11/23 – 11/28	25 & 26	Binary Search Trees and AVL Trees	Assignment 10 on Binary Search Trees is due 11/24
11/30 – 12/05	27	Hashing	
12/07 – 12/12	28	Graphs and Their Applications	Assignment 11 on Hashing is due on Tuesday, 12/01
12/14 – 12/17		**Final Exam (December 17, 2020)**	Programming Project is due Tuesday, 12/15