

CS-282, Section 1719 Course Syllabus

Intermediate Java (Data Structures & Algorithms) – Spring 2020

Course Description

CS-282 Section 1719 Hybrid course (Classroom/web) 4 Units

CS-282 is an intermediate/advanced level Java programming class. This class emphasizes the development of more advanced problem-solving skills. Major topics include analysis and development of effective data structures and algorithms along with software engineering practices emphasizing such principles as design decomposition, encapsulation, procedural abstraction, testing and software reuse.

Prerequisites

Successful completion of CS-182 or comparable introductory Java programming course is required. Additionally, students should be comfortable working with Microsoft Windows (7 or 10), using a web browser, compressing/decompressing zip files, uploading/downloading files, installing software and using Microsoft applications such as Word and Access.

Student Learning Outcomes

Upon completion of the course, the student is expected to demonstrate practical applications of software engineering methodologies and practices as outlined below:

1. Decompose problems and design program solutions using flowcharts, pseudocode, models, or other tools.
2. Properly code applications using the fundamental coding structures: sequence, selection, and loops.
3. Test and debug applications using debugging tools such as trace execution.

Instructor

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Background: Currently, I am a Senior Programmer/Analyst with the City of Chula Vista with over 35 years of experience in the electronics and computer software industry. Work experience includes private sector companies as well as government agency experience. I am an active software and database developer currently using Visual Basic.Net, ASP.Net, C#, MS Access, SQL Server, Reporting Services for SQL Server, and Geographic Information Systems (GIS) to implement a wide variety of government business solutions. I have also worked for private sector companies on projects for retail inventory and a variety of projects developing cable TV/broadcast automation systems. My industry experience also

includes digital design, system design/specification, software design/specification in structured and OOP environments, software development in text based (MS-DOS and UNIX), GUI (MS Windows) environments, web applications, Windows networking, Project Management, multimedia/digital video, user training and product support. Software development background includes Basic/Visual Basic, ASP.Net, Microsoft SharePoint, C/C++, C#, Java, Assembly, and object Pascal/Delphi. Database experience includes DBase, Paradox, Access, Informix, Btrieve, Oracle and MS SQL Server.

Additionally, I have been a part-time college instructor in the Information Technology and Computer Science disciplines for over 20 years teaching Programming Logic and Design, Visual Basic, ASP.Net, SQL Server, Java, operating system theory and object oriented software technology.

Course Text and Materials

Introduction to Java Programming and Data Structures, 11th Edition (Required Text)

Y. Daniel Liang

Pearson ©2018

ISBN-13: 9780134670942

Note: If you took CS-182 at Cuyamaca College, this is the same textbook used for that class.

NetBeans (Java Integrated Development Environment)

Fully licensed, functional IDE available from www.NetBeans.org as a free download. There are versions of the NetBeans IDE available for Mac and Linux.

Access to a reliable PC with a fast (I.e., cable, DSL) Internet connection for online work.

For lab work, it is strongly recommended to have a USB storage device for saving/backing up work.

Optional Text: Various tutorials are available online (Google is your friend!) with additional explanations of the class material, sample Java code, etc. YouTube has *lots* of tutorial videos! There are plenty of web sites with tutorials, sample code, etc.

Class Meeting Times

Classroom E-212

Monday Lecture 6:00 PM – 9:50 PM

Online via Canvas

January 27 – June 1, 2019

Virtual Classroom

Besides our regular classroom time, I will also be using the Canvas Course Management system for class activities. Each student will be provided a login account once you are officially registered for the class. In addition to participating in online discussions, taking exams online and submitting labs online, I will provide various learning resources such as Power Point slides for each chapter, code samples as needed and short "how to" video clips as needed to help you get through "tricky parts" of a chapter. You are welcome and encouraged to use these learning resources in addition to the text material.

I will periodically (weekly or bi-weekly) post announcements to the Class Announcements page and/or send out e-mails to class members that may include things such as class announcements, lab due dates,

exam reminders, and answers to frequently asked questions. To ensure that *you* are "kept in the loop", please make sure *your* e-mail address on Canvas is an e-mail account you check frequently.

Virtual Office Hours

I am available to assist you with questions and problems with assignments as needed. If you have questions regarding chapter material or assignments, you can e-mail me questions. There are also discussion forums on Canvas where you can post questions. I am also available after class. My goal is to help you succeed but it is your responsibility to ask for help if you need it.

I will try to respond to emails within 24 hours and I usually check my GCCCD and Canvas email in the evenings. Please be aware that on holidays or semester breaks, I may be traveling and unable to respond in a timely manner. I will post in the Canvas announcements any time periods where a response time may be extended. Also be aware the GCCCD email spam filter sometimes works "a little too well" and blocks legitimate messages. Canvas email is the best way to get a sure response.

I will also be hosting office hours using Confer Zoom. Confer Zoom is accessible via Canvas. Specific dates/times are provided below. Confer Zoom meetings are by booking an appointment and allow me to provide one on one assistance.

Th 2/13, 8 PM – 10 PM
Th 2/27, 8 PM – 10 PM
Th 3/12, 8 PM – 10 PM
Th 4/2, 8 PM – 10 PM
Th 4/16, 8 PM – 10 PM
Th 4/30, 8 PM – 10 PM
Th 5/7, 8 PM – 10 PM
Th 5/21, 8 PM – 10 PM

Assignments and Grading Policies

Assignments and exams are to be completed and turned in by the due date. *All work submitted for a grade **must** be submitted on Canvas! **No exceptions!*** Grading is based on accumulated points for the following assignments:

Assignment (Qty)	Points	Pct. of Grade
Labs (14)	280	38.3
Programming Projects (2)	100	13.7
Class Discussions (1)	10	1.4
Mid-term Exam (1)	100	13.7
Chapter Quizzes (14)	140	19.2
Final Exam (1)	100	13.7
Total Points:	730	100

Final letter grades will be assigned based on the following point/percentage scale below. **Everybody is expected to take an active part in the class and complete the assigned work.** I **do not** give automatic C grades for just "chair warming".

Points	Pct.	Grade
730	100	A+
686 - 729	94 - 99	A
657 - 685	90 - 93	A-
642 - 656	88 - 89	B+
605 - 641	83 - 87	B
584 - 604	80 - 82	B-
569 - 583	78 - 79	C+
511 - 568	70 - 77	C
438 - 510	60 - 69	D
< 438	Below 60	F

Incompletes will not be given unless initiated by the student prior to the final exam date and *must* be for a medical emergency, family emergency or other extenuating circumstances.

Exams (1 Midterm @ 100 points and 1 Final Exam @ 100 Points = 200 Points Total)

The Midterm and Final Exams may consist of Multiple Choice and True/False, short answer, short essay or coding questions. Questions will be based primarily on the text material but there may also be some from posted lecture notes, handouts, labs, and coding demonstrations. The exams will be online and will be available for a one week period. You may use notes and/or books as needed but be aware that your copy of the exam is not necessarily the same as your classmate's copy. **There is no make up for a missed exam.**

Chapter Quizzes (14 @ 10 points per quiz = 140 Points Total)

Chapter quizzes may consist of Multiple Choice and True/False, short answer, short essay or coding questions. Questions will be based primarily on the text material but there may also be some from posted lecture notes, handouts, labs, and coding demonstrations. All quizzes will be online and will be available for a one week period. You may use notes and/or books as needed but be aware that your copy of the quiz is not necessarily the same as your classmate's copy. **There is no make up for a missed quiz.**

Labs (14 Labs @ 50 points each = 400 Points Total)

Lab assignments are designed to provide a "hands-on" reinforcement of the various programming principles presented in the chapter material. Due dates for each lab are published on the Canvas site with the lab assignment. Please check the due date carefully and periodically as I may adjust due dates depending on the needs of the class. All files for all lab exercises must be in a Zip file and must be uploaded to the Assignments page by 11:59 PM PST on the assignment due date. **Late assignments will be penalized 5 points each week late. No late assignments will be accepted two weeks after the due date.** A video tutorial on how to upload to the Lab Assignment page is available on Canvas.

Programming Projects (2 Projects @ 50 points each = 100 Points Total)

Programming projects are more comprehensive and require you to apply concepts from multiple chapters as well as previous programming classes. Due dates for each project are published on the Canvas site with the assignment and on the class calendar. Please check the due date carefully and periodically as I may adjust due dates depending on the needs of the class. All files for all project exercises must be in a Zip file and must be uploaded to the Assignments page by 11:00 PM PST on the assignment due date. **Late assignments will be penalized 5 points each week late. No late assignments will be accepted two weeks after the due date.**

Programming Tools

We will be using the NetBeans Java IDE in class for lab/project work. I will provide a handout on Canvas with instructions on how to download and install a working Java development environment on your home computer that is sufficient for completing class lab exercises. There is no cost for the Java IDE.

Attendance and Participation

Active participation is important for gaining the maximum benefit from this course. I will drop students with more than 2 consecutive weeks of inactivity, falling behind in at least two labs, and/or missing the mid-term. Simply logging into Canvas each week and/or showing up in class each week and doing nothing is **not** active participation! **You are ultimately responsible to drop the class if you decide to stop attending.** Note the final drop deadline in the college academic calendar. If you are still enrolled in the class after this date, you **will** receive a grade! If you are going to be absent/inactive due to illness, work travel or family emergency, please notify me preferably by e-mail.

Plagiarism Policy

Plagiarism hurts your personal & professional reputation, the personal & professional reputation of others, and the reputation of the college. Unless specified otherwise, all assignments in this class are to be completed and turned in on an individual basis. Even in the software industry, where most projects are done in a team environment, team members are expected to contribute substantial original effort to their assigned portion(s) of a project. Information technology professionals are expected to work to a high professional and ethical standard. See the [ACM Software Engineering Code of Ethics and Professional Practice](#)

The bottom line: You will not gain any benefit from this course if someone else is doing all the work and thinking for you. Plagiarism will *not* help get you ahead in future classes that build upon this one nor will it help you get ahead in the workplace!

You are encouraged to share ideas and help each other but outright copying another's work (source code, documentation, etc.) will result in a zero score for all parties involved. Repeated offenses may result in referral for disciplinary action pursuant to the College guidelines for discipline in plagiarism matters. If you use the campus lab computers, make sure you take your personal storage media with you when you leave and don't leave hard copy source code/documentation lying around the lab or store your files in publicly accessible network file folders.

Acceptable	NOT Acceptable
Assisting a classmate with a problem. That is, helping them find and correct an error in <i>their</i> lab or project code.	Allowing others to outright copy portions or all of your lab or project code.
Allowing another person in the class to "sanity check" <i>your</i> application design and/or review lab/project documentation for typos, logic flaws, missing details, etc.	Allowing others to outright copy your design work and documentation.
Quizzing each other and/or reviewing text material, notes, etc. with others in the class <i>prior</i> to a quiz or exam.	Copying another person's answers, allowing others to copy your answers or providing others unauthorized assistance during a quiz or exam.
Using a block of code from a textbook, magazine or web site and adding comments to cite where you found it.	Copying and pasting blocks of code from a web site or CD without citing the source.
If you use the campus lab computers, before leaving the lab, check the printer for any print jobs that are yours. Check your workstation to make sure files are saved to your H: drive account or removable media (i.e., USB storage device). <i>Your</i> removable media is removed/disconnected from the computer and is in <i>your</i> possession. You are logged out and your workstation is shut down.	Leaving printouts, files and/or storage media out in the open where somebody can plagiarize your work.