CE/CS 2336.001 and 008—Fall 2024

Updated 8/19/2024

Computer Science II

Need Help?

If you're struggling with anything in the class, try to work it out in this order:

1. Try it out yourself. Using online resources is fine so long as you don't copy answers from it.
2. Ask for help from classmates, but do not copy answers. Explaining it will help them understand it better, too.
3. Contact me or go to the CSMC (see eLearning).

Professor

Erik Peterson, MS
eap190004@utdallas.edu

I'm happy to join a class Discord server. I'm _mrpeterson.

Office Hours

Between the sections (~11:30-12:45) I'll plan to be in the NEC terrace at the northeast corner of the building (same floor as the classroom). If you'd like to meet with me, it'd be good to let me know so I'll make sure to be there.

I do have an office (ECSN 3.608) if there needs to be a more private conversation.

Course Pre-requisite

Prerequisite: CE/CS 1337 with a C or better

NOTE: if you didn't take 1337 AND you made a 4 or 5 on the AP CS exam, you should take CS 2337, not this course. 2337 introduces C++, which you'll need before you take 3377.

Course Description

Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic

analysis. Includes comprehensive programming projects. Programming language of choice is Java.

Student Learning Objectives/Outcomes

1. Ability to implement recursive algorithms
2. Ability to implement linked lists, stacks, and queues
3. Ability to implement a binary tree
4. Ability to use hash tables and graphs
5. Ability to understand algorithmic analysis
6. Ability to create a comprehensive programming project
7. Ability to implement and use generics/templates

Textbook

We will use a ZyBook for this course. It is required; I plan to use some of the activities for participation. (And the text is very good—concise while yet covering everything.) To get it:

1. Sign in or create an account at learn.zybooks.com
2. Enter zyBook code: UTDALLASCE2336CS2336PetersonFall2024
3. Subscribe

Coding Environment

We're going to use GitHub classroom to store our coding work. GitHub also makes it much easier for me to check your work or run it if you get stuck. We'll talk over the details and how to get set up during class.

Either IntelliJ or Visual Studio Code will work fine for doing the coding work on your computer. (Other IDEs should work, too, but those are the two I'm familiar with, so I'll be better able to help you with them. 😊)

Assignments & Academic Calendar

Week Of	Topics	Reading	Due
1: 8/19	Intro, GitHub Classroom Setup, Java Basics		NOTE: All due on **Monday at 11:59 PM** unless stated
2: 8/26	Java Basics	Ch 1-6	
3: 9/2 (9/4 only)	Java Basics	Ch 7-8	GitHub Assignment 1
4: 9/9	Recursion, Classes	Ch 9-12	GitHub Assignment 2
5: 9/16	Classes and Class Hierarchies	Ch 11-12	eLearning Assignment 1 GitHub Assignment 3
6: 9/23	Class Hierarchies, Exceptions	Ch 13-14	
7: 9/30	Generics, Built-in Java Classes	Ch 15	eLearning Assignment 2 GitHub Assignment 4
8: 10/7	Review, **Exam**		**10/9: Midterm**
9: 10/14	Linked Lists/Stacks/Queues	Ch 16-17	eLearning Assignments 3&4 GitHub Assignments 5&6
10: 10/21	Linked Lists/Stacks/Queues	Ch 16-17	
11: 10/28	Graphs	Ch 19	**Singly Linked List Project** eLearning Assignment 5
12: 11/4	Binary Search Trees	Ch 18	eLearning Assignment 6
13: 11/11	Hash Tables	Ch 20	**Doubly Linked List, Stack, Queue Project** eLearning Assignment 7
15: 11/18	Algorithm Analysis	Ch 21	eLearning Assignment 8
14: OFF			
16: 12/2	Algorithm Analysis, Review	Ch 22	**Binary Search Tree Project**
17: FINAL	Date TBD		eLearning Assignment 9 **Final**: date/time TBD

Grading Policy

Type	Percentage	What is it?
Midterm	10%	Midterm covering Java topics
Final	20%	Departmental final exam
Assignments	20%	Written assignments covering lecture material
Java Practice	15%	Smaller coding assignments
Projects	30%	Covers data structures
Participation	5%	In-class attendance quizzes, etc.

Course & Instructor Policies

Midterm

We will have a midterm on 10/9, covering all the Java programming work. The exam will be in eLearning. Here's the setup:

- It will be given during class time, and you will need to be in class to take it. (I will probably password-protect the exam in eLearning)
- You will be allowed one sheet of note paper, typed/written/hybrid, front and back
- The midterm will be multiple-choice
    - If I find that there is a 2nd answer or other issues, I will give credit back at my discretion.
- You will have 80 minutes to complete the exam once started
- Much more as we get closer to time 😊

Final

- This will be a departmental final
- Multiple-choice, with questions from me and the other 2336 instructors
- I will make sure we cover all the material needed
- More details as we get closer to time

Assignments

These assignments will be given in eLearning and will cover the course material, and will be graded by our grader. It will look like a test to you (I prefer that format for grading and feedback purposes), but it won't be timed.

Java Practice and Projects

These will be done as assignments through GitHub Classroom. These work best via an IDE, where you clone the repository and push your changes in as needed. We'll talk through that during the 1st week of class.

I will give you starter code and/or comments to help you get set up properly.

"Turning in": Since this is GitHub (and git underneath), there is no "turning in" your code.

All you need to do is commit, push to GitHub, and verify that the automated tests work. (And, again, we will go over all of that in class. 😊)

Grading: With these assignments I'll create some JUnit test cases to verify that your code works as intended. You can (and should!) run these yourself in your IDE, and they will automatically run when you push your code to GitHub.

For Java Practice assignments (1st half of the class), the automated tests will translate to your grade, though I reserve the right to spot-check your code to make sure you're solving them properly.

For the projects, I will also be checking your code using a simple coding standard. Coding standards help others read your code, and this is good practice for working at a company (which will almost certainly have its own coding standards).

Participation and Grade-level Bumps

During most (if not all) classes after the first week there will be some sort of participation grade. It might be a "code word" quiz to show that you were there, or perhaps a particular activity in the ZyBook to make sure you understood what we talked about that day.

Your participation grade will include 6 "freebies" to cover illnesses and other issues. (That is, you can miss up to 6 classes without it hurting your participation grade.)

I'll also use participation as my "rounding" at the end of the semester. Your participation percentage will give you up to 1 point towards your final grade—though this time it'll be the "raw" average, with no freebies. (So, for example, if you attend every class a 92.0 or above would become a 93/A, whereas 50% attendance would turn a 92.5 into an A.)

Late Work

If you need an extension, see me ***before the due date***. Those extensions will be granted at my discretion only.

Extensions requested ***after work is due*** will only be granted for unusual circumstances.

Extra Credit

My classes tend to do well grade-wise, so don't expect any extra credit work.

Working Together and Cheating

In general, I'm fine with you talking about assignments with your classmates. What I *do* expect, though, is that you turn in your own work.

I have a zero-tolerance policy for cheating. Should I discover cheating issues, I will immediately inform the university for disciplinary action. Cheating can include (but is not

limited to) the following:

- Copying answers from a classmate
- Turning in answer(s) that were clearly derived from a classmate's answers
- Work (and especially code) created by AI and not by you
- Faking code functionality (making it pass tests without actually doing the work)

Class Materials

The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Classroom Conduct Requirements Related to Public Health Measures

UT Dallas will follow the public health and safety guidelines put forth by the Centers for Disease Control and Prevention (CDC), the Texas Department of State Health Services (DSHS), and local public health agencies that are in effect at that time during the Fall 2021 semester.

Class Recordings

I am planning to record lectures and post them to YouTube. Since I'm teaching two sections of the same course, I will create a common YouTube playlist for both sections and only post one of the two section's recording on any given day. Expect the recording to drop the day after class. (If it goes beyond that please email me…I probably just forgot. 😊)

To keep things fair, I will do my best to keep both classes together as we go through the material.

If we must go virtual for whatever reason, I will live-stream those sessions to YouTube using the same playlist as the recordings.

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly

prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

The instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Support Resources

The information contained in the following link lists the University's academic support resources for all students.

Please see http://go.utdallas.edu/academic-support-resources.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please review the catalog sections regarding the credit/no credit or pass/fail grading option and withdrawal from class.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.