

Course Syllabus – Fall 2023

Course Information

Course	CS 2336, Section 007
Course Title	Computer Science II
Term	Fall 2023
Days & Times	Mondays & Wednesdays 4:00 pm – 5:15 pm

Professor Contact Information

Professor	Anjum Chida
Office Phone	972-883-2185
Email Address	anjum.chida@utdallas.edu
Office Location	ECSS 4.230
Online Office Hours	In-person - 10:00 am to 12:00 noon (Mondays & Wednesdays)

(Or by appointment, additional meetings can be virtual via MS-Teams)

Course Pre-requisites, Co-requisites, and/or Other Restrictions

CE/CS 1337 with a grade of C or better.

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

Students will be able to implement different data structures using the Java programming language. They will be able use different data structures to program solutions to solve real problems. It will also help them understand algorithmic analysis and complexities. After successful completion of this course, you should be able to:

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.

Required Textbooks and Materials

- Zybooks–CS 2336 – Computer Science II, [link is in elearning Homepage](#).

Academic Calendar

Class	Date	Topic
1, 2	Aug 21, 23	Basic Elements of Java I/O and Control Structures User-Defined Functions Recursion
3, 4	Aug 28, 30	Arrays Strings Object-Oriented Design Classes
5, 6	Sep 4, 6	*Holiday Inheritance and Polymorphism
7, 8	Sep 11, 13	Array lists & Linked Lists
9, 10	Sep 18, 20	Generics Exception Handling
11, 12	Sep 25, 27	Abstract Classes Interfaces
13 14	Oct 2, 4,	Binary Search Trees
15	Oct 9	Review
16	Oct 11	Exam I
17, 18	Oct 16, 18	Graphs
19, 20	Oct 23, 25	Hashing
21, 22	Oct 30, Nov 1	Stacks, Queues
23, 24	Nov 6, 8	Measuring Algorithm Efficiency Big-O Notation
25, 26	Nov 13, 15	Algorithm Efficiency of Data Structures
<i>Thanksgiving Break Nov 20-24</i>		
27, 28	Nov 27, 29	Sorting Algorithms
29, 30	Dec 4, 6	Review
	Dec 13	Exam II

For academic calendar [Click Here](#)

Project Due Dates

Project 1 Pseudocode	September 10
Project 1 Core Implementation	September 17
Project 1 Final Submission	September 24
Project 2 Pseudocode	October 1
Project 2 Core Implementation	October 15
Project 2 Final Submission	October 22
Project 3 Pseudocode	October 29
Project 3 Core Implementation	November 5
Project 3 Final Submission	November 12
Project 4 Pseudocode	November 19
Project 4 Core Implementation	November 26
Project 4 Final Submission	December 3

Grading Policy:

The grade will be determined as described below. The lowest assignment score, HW score, and Project score will be dropped. No other bonus work, make-up work, dropped scores, or other means of raising your grade should be expected. At the end of the semester, it is possible that grades may be curved, but a curve should not be expected.

Grades are not based on needs or consequences but are based only on performance.

Total score will be calculated as follows:

Assessment	Percentage towards your Total Score
Exam – I	20%
Exam – II	20%
Projects	30%
Programming Assignments	15%
HomeWorks	10%
Class Participation	5%

Assignment of letter grade is as follows:

Total	Letter Grade
98-100	A+
93-97	A
90-92	A-
88-89	B+
83-87	B
80-82	B-
78-79	C+
73-77	C
70-72	C-
60-69	D
0-59	F

Tentative Test Dates:

Exam 1: October 11
Exam 2: December 13

All examinations will be at the Testing Center (<https://ets.utdallas.edu/testing-center>). Seats will fill up quickly; students are encouraged to register for **ALL three exams early in advance during the **first two weeks** of semester.*

**Failure to take the exam due to incorrect registration or absence will result in score of zero for that exam, NO EXCEPTIONS.*

Course & Instructor Policies:

Exams

Both exams will be at the Testing Center. All students are required to register and **reserve seats at the center at least 48 hours before the exam**. This 48-hour deadline is strictly followed by the testing center. If a student misses an exam due to not registering 48 hours prior to the exam, this will constitute a ZERO for the exam. No Exceptions will be made for missing the exam due to missed or incorrect registration.

All exams could be registered in the first few weeks of the semester, once registered a confirmation email will be sent to the student. It is the student responsibility to ensure

proper registration and to follow all the guidelines and dress code restrictions given in the Testing center website.

Exams must be taken on time. Exceptions require advance approval by the instructor. It is up to the instructor to determine whether an exception will be made and will depend largely on proof of extraordinary circumstances. Otherwise, a missed exam will either incur a substantial penalty or be recorded as a zero.

The midterm exam will be strictly a coding exam. All questions on the exam require students to write code to produce proper output. The final exam will include a variety of question types including multiple choice, multiple answer, essay questions and coding questions. Students are expected to be able to apply knowledge from all previous chapters in conjunction with the tested chapters.

Make-Up Exams

Make-Up exams will be administered only under extreme extenuating circumstances like hospitalization or road accidents. Proof of such incident is required to request a Make-Up and will be approved after instructors' discretion.

Projects

Projects will be major programming assignments that supplement recently discussed topics and will be completed in two to three weeks. Projects are intended to take approximately 15-20** hours to complete overall; this includes the design, coding, and testing process. Waiting until a couple of days before the due date to start the project is a bad idea. Not only does this introduce unnecessary stress into the students' life, and usually does not end well for the student. Most students score poorly on projects that are built in less than three days.

*(** this is average time for a student that has taken 1337 at UTD. Your experience with problem solving in computer science and knowledgebase of object-oriented programming may impact the time needed to complete assignments)*

Projects will be divided into milestones as you would expect to see in the professional world. The milestones for each project are as follows:

- Design (4 days)
- Core implementation (7-days)
- Final implementation and testing (7-days)

Each milestone will be graded and the total of all three milestones will contribute toward the overall grade for the project. Each milestone will have a firm deadline and failure to meet the deadlines will have a negative impact on your grade.

Projects are individual endeavors and students are not to work in groups on any project. Students are permitted (and I openly encourage students) to discuss the project. Feel free to share ideas on the logic, but **DO NOT SHOW YOUR CODE TO OTHER STUDENTS.** **When discussing logic, try to keep it general. If you give out every little piece of logic you have, there is a good chance the person you are helping will have very similar code as yours and may be flagged for being too similar.** Be careful of posting your code online. Another student could use your code without your knowledge and could involve you in a code plagiarism referral.

Students should avoid using web sites like GitHub and Chegg for help on projects. Copying code from a web site is considered plagiarism and will be treated as such. If you find code on a web site, it is highly likely another student will find it as well which may cause both submissions to be flagged for similarity. Submitting project and assignment details to web sites for outside help (e.g. Chegg) is also considered academic dishonesty by UTD.

Late submissions will not be accepted. It is your responsibility to upload your work early enough to avoid possible problems uploading to eLearning. It is your responsibility to ensure that you have submitted the correct items. It is recommended that you double-check your submission to ensure it is correct.

All projects core implementations and final submissions will be submitted into ZyBooks via elearning and will be compared for originality. Project Pseudocodes will be submitted in Elearning only. Any projects that are approximate or identical copies will be reported to the Office of Community Standards and Conduct, and I will accept their decision regarding the grade if they believe that academic dishonesty has occurred. There are four projects in total. No makeup work is possible for Projects, but the lowest Project score will be dropped before calculating Project Total.

Programming Assignments

Assignments are generally short coding assignments that can be done in 1-2 hours and measure how well you understand the material we have covered. These assignments are typically due 1 week from the date given. There are about 10 assignments throughout the semester.

Late submissions are not allowed for Programming Assignments. It is your responsibility to upload your work early enough to avoid possible problems uploading to eLearning. It is your responsibility to ensure that you have submitted the correct items. It is recommended that you double-check your submission to ensure it is correct.

All Assignments are to be individual efforts. Copying of Assignments in whole or in part, from other students in this semester or previous semesters will be considered an act of scholastic dishonesty. No makeup work is possible for Assignments, but the lowest Assignment score will be dropped before calculating Assignment Total.

HomeWorks

HomeWorks are participation activities and will be available via Zybooks multiple times throughout the semester. Students will read the chapter and answer basic questions about the material to illustrate how well they understand the general concepts. These activities will not be graded but participation credit will be given if they are completed before the due date. HomeWorks activities cannot be submitted late. No makeup work is possible for missing HomeWorks activities, but one missed deadline will not affect the HomeWorks average. There are about 12 HomeWorks activities throughout the semester.

Class Attendance

Regular and punctual class attendance is expected. Attendance will be taken in every class, and this will constitute a part of Class Participation credit. **Attendance will be**

taken as an elearning Quiz, students need to login into elearning and take the Attendance Quiz in every class. Students who fail to attend class regularly are inviting scholastic difficulty. Attendance score will be used to calculate Class Participation credit.

Class Participation

Regular class participation is expected. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Email Correspondence with the Instructor.

Any courses related questions can be asked via email to the instructor. It is the instructor's policy to respond to every email within 24 hours, if a response is not given in 24 hours, the student is encouraged to email again. On occasions, the instructor gets too many emails and might forget to respond or read the email, student patience is highly appreciated in this matter.

Class Assessment Surveys

There are three class assessment survey, one at the Beginning of the Semester, one at the middle and one at the end of the semester. The end of semester survey is the official UTD course evaluation survey taken from the website eval.utdallas.edu . The other two surveys will be via elearning. All surveys are anonymous. Surveys are considered as feedbacks from students which becomes essential part of course design and course conduct modifications. Feedback from students via these surveys encourages and motivates the instructor to perform optimally at teaching the course and helps in better course design.

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](#).

Class 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, the intent is to supplement the classroom experience.

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.”

Accommodations for Students with Disabilities

The University of Texas at Dallas is committed to providing reasonable accommodations for all persons with disabilities. The syllabus is available in alternate formats upon request. If you are seeking classroom accommodations under the Americans with Disabilities Act (2008), you are required to register with the AccessAbility Resource Center (ARC), located in the Administration Building, Suite 2.224. Their phone number is 972-883-2098, email: studentaccess@utdallas.edu and the website is <https://accessability.utdallas.edu/>. To receive academic accommodations for this class, please register and request services by completing the Request for Services form with the proper documentation and meet with the Director of ARC at the beginning of the semester.

Academic Integrity

The faculty expects from its students a high-level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrates a high standard of individual honor in his or her scholastic work. See <https://conduct.utdallas.edu/integrity>.

Academic Dishonesty: Academic dishonesty can occur in relation to any type of work submitted for academic credit or as a requirement for a class. It can include individual work or a group project. Academic dishonesty includes plagiarism, cheating, fabrication, and collaboration/collusion. In order to avoid academic dishonesty, it is important for students to fully understand the expectations of their professors. This is best accomplished through asking clarifying questions if an individual does not completely understand the requirements of an assignment.

Additional information related to academic dishonesty and tips on how to avoid dishonesty may be found here: <https://conduct.utdallas.edu/dishonesty>.

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>.

The University of Texas at Dallas is committed to providing reasonable accommodations for all persons with disabilities. The syllabus is available in alternate formats upon request. If you are seeking classroom accommodations under the Americans with Disabilities Act (2008), you are required to register with the Office of Student AccessAbility, located in the Administration Building, Suite 2.224. Their phone number is 972-883-2098, email: studentaccess@utdallas.edu and website is <https://studentaccess.utdallas.edu>. To receive academic accommodations for this class, please obtain the proper Office of Student AccessAbility letter of accommodation and meet with me at the beginning of the semester."

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.

General Guidelines

Java (Required): All projects and Assignments you submit will be executed with **Java SE 11**. This is a free download for all OS's. <http://www.oracle.com/technetwork/java/javase/downloads/index.html>

You may use any IDE you prefer. If you prefer not setting up an IDE, you can use an online IDE such as Online GDB (<https://www.onlinegdb.com/>)

Helpful Online Resources:

- <http://javabeginnerstutorial.com/core-java/>
- <http://stackoverflow.com/questions/tagged/java>
- <http://introcs.cs.princeton.edu/java/10elements/>

Zybooks

1. Click any zyBooks assignment link in your learning management system (Do not go to the zyBooks website and create a new account)
2. Subscribe

A subscription is **\$89**. Students may begin subscribing on Aug 07, 2023 and the cutoff to subscribe is Dec 09, 2023. Subscriptions will last until Jan 08, 2024.

Problem Solving Procedure

1. Try to solve it yourself – use the internet to research the problem and try different solutions. If you can't solve it after a couple of hours move to the next level.
2. Consult with your classmates – Post your question in the class Discord server. Since there are multiple people that can answer questions, you should get a quick response allowing you to complete the tasks you are working on. If your question can't be answered there, move to the next level.
3. Visit the CSMC – If your classmates can't answer the question, check with a mentor at the CSMC (<https://csmc.utdallas.edu>). If the CSMC mentors can't answer your question, move to the next level.
4. Visit me during office hours – If you are truly stumped, I will give you the information you need to move forward.

Help Desk: For help with issues regarding your computer, UTD maintains a walk-in help desk. Visit their Web site for details: <http://www.utdallas.edu/ir/helpdesk/>

If you need help, please make the effort to reach out. We can't help you if we don't know that you need help.

CSMC

The Computer Science Mentoring Center (CSMC) is a free resource available to all students taking this class. The CSMC provides assistance in many areas including:

- Understanding core concepts related to this class
- Developing a logical framework for a program
- Connecting programming constructs to the logic of the program
- Assisting in solving syntax and logical errors in your code
- Exam reviews and reworks (by faculty request)

The mentors will meet with you 1-on-1 to address your specific problem areas. Their goal is to help you understand what is wrong and how to fix it, but they will not do the work for you. For more information about the CSMC, including location and hours of operation, please visit <http://csmc.utdallas.edu>