Welcome to Fall 2022 Syllabus

My name is Kamran Z. Khan and I will be your instructor for this course. I am looking forward to a terrific semester with you.

I want to welcome everyone, and I would encourage you to post a short informal hello message in the "Introduction" discussion forum in eLearning to let me know you received my welcome message, and to briefly introduce to yourself to your fellow students.

This is not a self-paced course--it's important that you keep on top of the weekly reading and assignments!

Each of you must manage your own time each week to know when assignments, and any other weekly course obligations, are due. This will involve regularly logging into eLearning to check discussion forums and communications, monitoring your UTD email address, and virtually interacting with classmates, team members, instructors, and course materials.

At this point, I suggest the following actions:

- ✓ Log into eLearning and begin to familiarize yourself with the course site
- ✓ Make sure you've confirmed your email address in the eLearning system so you can receive messages and announcements via eLearning
- ✓ Read through the Syllabus so you know the rhythm of course, and what is expected.
- ✓ Please post your specific questions about the class in the Getting Started forum
- ✓ Take Quiz 1 available under Quizzes and Exams at eLearning – due by August 30th

I look forward to working with you this semester and getting off to a strong start!

Best,
Kamran Z. Khan
Assistant Professor of Instruction
Erik Jonsson School of Engineering & Computer Science
The University of Texas at Dallas
800 W. Campbell Rd. EC32, Richardson, TX 75080
Phone: 972-883-3892 Cell: 214-280-7124
kkhan@utdallas.edu

Contact Information	**Modality**	In Person
	Course	CE/CS: 2336.501
	Course Title	**Computer Science II (Java)**
	Term	Fall 22
	Course Number/Section	Section 502: Tue/Thurs: 5:30-6:45pm
	Name	Professor: Kamran Z. Khan
	Phone	Cell: (214) 280 - 7124 Office: (972) 883 – 3892
	Office Location / Hours	ECSS 4.607 or by Appt: Tue/Thurs 3:45pm – 5:30pm
	Email	kkhan@utdallas.edu
	Email Subject	2336.502
	TA/Grader	TBD

Pre-requisites	CE 1337 or CS 1337 or TE 1337 with a grade of C or better.
Pre-/Co-requisite	CE 2305 or CS 2305 or TE 2305 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
General Course Information	Additional Material will be posted on eLearning

Learning 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

COVID-19 Guidelines and Resources

The information contained in the following link lists the University's COVID-19 resources for students and instructors of record.

Please see https://go.utdallas.edu/syllabus-policies

Unless recommended by UTD, there will not be an asynchronous option for this class. Students required to quarantine by the university will be given an opportunity to attend class remotely (synchronously) for the duration of the quarantine. If you feel sick, please fill out the daily health check and complete the required actions by UTD. A remote synchronous option will not be provided without communication from the university.

DO YOU NEED ASSISTANCE?

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 eLearning discussion board.

3. Visit the CSMC – <N/A in Summer> 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.

Resources:

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

WHAT IS REQUIRED?

- **Textbook**
  - **Introduction to JAVA Programming** (Physical Book) 11th edition – Comprehensive Version; Liang, Y. Daniel; Pearson Publishing; ISBN 976-0-13-467094-2

- The Computer Science Mentor Center at https://csmc.utdallas.edu/ is always a good resource. Check their Web site for information since they will most likely be available only online. (Closed in Summer)

- You can also look at the java docs at https://docs.oracle.com/en/java/index.html which is the definitive source.

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

Java Version (Required)

- All projects you submit will be executed with Java SE 11. This is a free download for all OS's. https://www.oracle.com/java/technologies/javase-jdk11-downloads.html

- You may use any IDE you prefer
  - Popular IDEs (alphabetical order):
    - BlueJ, Codenvy, DrJava, Eclipse, Greenfoot, IntelliJ IDEA. JCreator, (Oracle) JDeveloper, JGrasp, NetBeans, VC Code, Atom

You are responsible for getting the programming assignments written and turned in on time. Assignment will not be accepted via email.

Java Version (Required)

- All projects you submit will be executed with Java SE 11. This is a free download for all OS's. https://www.oracle.com/java/technologies/javase-jdk11-downloads.html

- You may use any IDE you prefer
  - Popular IDEs (alphabetical order):
    - BlueJ, Codenvy, DrJava, Eclipse, Greenfoot, IntelliJ IDEA. JCreator, (Oracle) JDeveloper, JGrasp, NetBeans, VC Code, Atom

You are responsible for getting the programming assignments written and turned in on time. Assignment will not be accepted via email.

Class Participation

Regular class participation is expected regardless of course modality. 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.

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 Accessibility 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 Accessibility accommodation.

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 lecture; 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 Accessibility accommodation.

Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Technical Requirements

In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the Getting Started with eLearning webpage.

Course Access and Navigation

This course can be accessed using your UT Dallas NetID account on the eLearning website. Please see the course access and navigation section of the Getting Started with eLearning webpage for more information.

To become familiar with the eLearning tool, please see the Student eLearning Tutorials webpage.
UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The eLearning Support Center includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Communication

This course utilizes online tools for interaction and communication. Some external communication tools such as regular email and a web conferencing tool may also be used during the semester. For more details, please visit the Student eLearning Tutorials webpage for video demonstrations on eLearning tools. Student emails and discussion board messages will be answered within 3 working days under normal circumstances.

Discussion Board: The fastest and easiest way to get help is by posting your questions on eLearning on the class's discussion board, not by email. You will be able to post your questions, anonymously if you wish, about anything related to the class (except grades) and get a response either from me or your classmates. Since there are multiple students that can answer questions, you should get a quicker response allowing you to complete the tasks you are working on. If you have a question during a lecture, do not hesitate to raise your and ask.

Email: students **must include their course and section number** while sending emails to instructor or graders to get prompt response.

Distance Learning Student Resources

Online students have access to resources including the McDermott Library, Academic Advising, The Office of Student Accessibility, and many others. Please see the eLearning Current Students webpage for more information.

Server Unavailability or Other Technical Difficulties

The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online eLearning Help Desk. The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.

Chapters:
Part 1: Chapters 1-7
Part 2: Chapters 9-13
Part 3: Chapters 18, 19, 20, 22, 23, 24, 25, 27, 28,

An exam should not be missed except for the most extreme circumstances (such as hospitalization or death of an immediate family member). If you miss an exam, you must have documentation for the absence. A make-up exam may be given to students with valid documentation. The allowance of a make-up exam is at the sole discretion of the instructor.

Grading Policy:

Exams: 50%
Assignments: In Class, Quizzes, and Homework & Project Average: 50%

Departmental Attendance Policy: The Computer Science Department has implemented the following attendance policy beginning Fall 2016: If a student misses three consecutive classes, the student will receive a letter grade reduction to his or her final grade. This deduction is cumulative, so if a student misses three consecutive classes twice, the final grade will be reduced by two letter grades. If a student misses four consecutive classes, the student will automatically receive an F for his or her final grade.

Grading Scale:

98-100 A+	88-89 B+	78-79 C+	68-69 D+	Below 60 F
92-97 A	82-87 B	72-77 C	62-67 D	
90-91 A-	80-81 B-	70-71 C-	60-61 D	

Classroom Citizenship	The instructor encourages students to take active part in class discussions. No question is too simple/stupid to be asked. So, do not hesitate.
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."*
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 go to http://go.utdallas.edu/syllabus-policies for these policies.*

Course Learning Outcome (CLO):

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

Chapter 2 Elementary Programming
Chapter 3 Selections
Chapter 4 Mathematical Functions, Characters, and Strings
Chapter 5 Loops
Chapter 6 Methods <CLO 1>
Chapter 7 Single-Dimensional Arrays
Chapter 9 Objects and Classes
Chapter 10 Object-Oriented Thinking
Chapter 11 Inheritance and Polymorphism
Chapter 12 Exception Handling and Text I/O
Chapter 13 Abstract Classes and Interfaces
Chapter 18 Recursion <CLO 1>
Chapter 19 Generics <CLO 7>
Chapter 20 Lists, Stacks, Queues, and Priority Queues <CLO 2>
Chapter 22 Developing Efficient Algorithms <CLO 5>
Chapter 23 Sorting
Chapter 24 Implementing Lists, Stacks, Queues, and Priority Queues <CLO 2, CLO6, CLO7>
Chapter 25 Binary Search Trees <CLO 3, CLO6, CLO7>
Chapter 27 Hashing <CLO 4, CLO6>
Chapter 28 Graphs and Applications <CLO 3, CLO 4, CLO6>

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

	Date	Topic	CLOs		Due
1	22-Aug	Introduction			
2	24-Aug	Ch 2: Elementary Programming	CLO 1		
3	29-Aug	Ch 3: Selections	CLO 1	HW #1	
4	31-Aug	Ch 4: Mathematical Functions, Characters, and Strings	CLO 1		
5	5-Sep	Ch 5: Loops	CLO 1		
6	7-Sep	Ch 6: Methods <CLO 1>	CLO 1		HW #1
7	12-Sep	Ch 7: Single-Dimensional Arrays	CLO 1		
8	14-Sep	Ch 9: Objects and Classes	CLO 1	Project	
9	19-Sep	Ch 9: Objects and Classes	CLO 2		
10	21-Sep	Ch 10: Object-Oriented Thinking	CLO 4	HW #2	
11	26-Sep	Ch 11: Inheritance and Polymorphism	CLO 4		
12	28-Sep	Ch 12: Exception Handling and Text I/O	CLO 4		
13	3-Oct	Ch 13: Abstract Classes and Interfaces	CLO 4		HW #2
14	5-Oct	Exam I (5:30pm – 6:45pm)			
15	10-Oct	Ch 18: Recursion <CLO 1>	CLO 6		
16	12-Oct	Ch 19: Generics <CLO 7>			
17	17-Oct	Ch 20: Lists, Stacks, Queues, and Priority Queues <CLO 2>	CLO 3		
18	19-Oct	Ch 20: Lists, Stacks, Queues, and Priority Queues <CLO 2>	CLO 6	HW #3	
19	24-Oct	Ch 24: Implementing Lists, Stacks, Queues, and Priority Queues <CLO 2, CLO6, CLO7>	CLO 6		
20	26-Oct	Ch 24: Implementing Lists, Stacks, Queues, and Priority Queues <CLO 2, CLO6, CLO7>	CLO 6		
21	31-Oct	Ch 25: Binary Search Trees <CLO 3, CLO6, CLO7>	CLO 6		HW #3
22	2-Nov	Exam II (5:30pm – 6:45pm)			
23	7-Nov	Ch 25: Binary Search Trees <CLO 3, CLO6, CLO7>	CLO 6		
24	9-Nov	Ch 27: Hashing <CLO 4, CLO6>	CLO 7	HW #4	
25	14-Nov	Ch 27: Hashing <CLO 4, CLO6>	CLO 7		
26	16-Nov	Ch 28: Graphs and Applications <CLO 3, CLO 4, CLO6>	CLO 7		HW #4
27	21-Nov	No Class (Fall Break & Thanksgiving Holiday)			
28	23-Nov	No Class (Fall Break & Thanksgiving Holiday)			
29	28-Nov	Ch 22: Developing Efficient Algorithms <CLO 5>	CLO 5	HW #5	Project
30	30-Nov	Ch 23: Sorting	CLO 7		
31	5-Dec	Review			HW #5
32	7-Dec	Exam III (5:30pm – 6:45pm)			