UTD **Course Syllabus**

Course Information:
- Course Number: CS/CE/TE/SE 3345, Section 001 (T/Th 8:30am – 9:45am, ECSN 2.126)
- Course Title: Data Structures and Introduction to Algorithmic Analysis
- Credit Hours: 3
- Term: Fall 2017

Professor Contact Information:
- Name: Anjum Chida
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TA Contact Information
- Name:
- Office Location:
- Office Hours:
- Email:

Course Pre-Requisites, co-requisites, and/or other restrictions:
- Prerequisites: CE/CS/TE 2305 and CE/CS 2336.
- Prerequisite or co-requisite: CS/SE 3341 or ENGR 3341.

Course Description:
- Analysis of algorithms including time complexity and Big-O notation. Analysis of stacks, queues, and trees, including B-trees. Heaps, hashing, and advanced sorting techniques. Disjoint sets and graphs. Course emphasizes design and implementation.

Student Learning Objectives/Outcomes
- Ability to use/analyze:
1) Asymptotic notations, recurrences, algorithm analysis
2) Lists, stacks, queues, hashing, priority queues
3) Binary search trees, Balanced binary search trees
4) Graphs, Depth-first search, Topological ordering
5) Breadth-first search, Dijkstra's algorithm
6) Algorithms of Prim and Kruskal, Disjoint-set Union-Find problem

Assignments & Academic Calendar

Class	Date	Material Covered	Major Topics
1, 2	Aug 22, 24	Introduction, Chapter 1	Math Review Java Generics
3, 4	Aug 29, 31	Chapter 2	Algorithm Analysis
5, 6	Sep 5, 7	Chapter 3	Linked Lists, Stacks, Queues
7, 8	Sep 12, 14	Chapter 3	Linked Lists, Stacks, Queues
9, 10, 11	Sep 19, 21, 26	Chapter 4	Trees, BST Review
12	**Sep 28**	**Exam 1 (ch. 1-3)**	
13, 14	Oct 3, 5	Chapter 4	Balanced Trees
15, 16	Oct 10, 12	Chapter 5	Hash Table
17, 18	Oct 17, 19	Chapter 6	Heaps
19, 20	Oct 24, 26	Chapter 7	Sorting Review
21	**Oct 31**	**Exam 2 (ch. 4-6)**	
22,23, 24	Nov 2, 7, 9	Chapter 7 Chapter 8	Sorting Union/find algorithm
25, 26	Nov 14, 16	Chapter 9	Graphs
Thanks Giving Holiday Nov 20 -24			
27, 28	Nov 28, 20	Chapter 9	Graphs
29, 30	Dec 5	Chapter 9	Review
30	**Dec 12**	**Final Exam**	

Required Textbooks and Materials

- Data Structures and Algorithm Analysis in Java, (Third Edition), by Mark Allen Weiss, Published by Addison-Wesley, 2011, ISBN-10: 0132576279, ISBN-13: 978-0132576277
- Extra material may be posted on eLearning

Tentative Test Dates:

Exam 1:   September 28th

Exam 2:   October 31st

Final Exam: December 12th

*All examinations will be in Testing center (McDermott Library First Floor MC 1.401)

Grading Policy:

The grade will be determined as described below. The lowest assignment score and the lowest project score are 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.

Exam 1	20%
Exam 2	20%
Final Exam	20%
Class Participation	5%
Assignment Average	15%
Projects Average	20%

Letter grades are determined using the standard 10-point range for each letter, then dividing this range into three equal parts to determine the +/- designation.

Attendance Policy:

Attendance will be taken in class. Missing three consecutive classes without approval by the instructor will automatically result in one letter grade drop and missing four consecutive classes will result in F in class.

Course & Instructor Policies:

Assignments and projects must be turned in on time. Each day late will result in a deduction of 10% of points. 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.

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.

Exams have time limits. Students who continue to write on the exam after time is called or who start writing before the exam begins are subject to a penalty.

Students are expected to attend all class lectures. If absent, the student is still responsible for any material covered or anything said which the student missed.

All assignments, projects and exams are to be individual efforts. You are not to collaborate with other students, or to discuss solutions with other students prior to submission. Copying of assignments, projects and exams, in whole or in part, from other students in this semester or previous semesters will be considered to be an act of scholastic dishonesty.

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

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.

These descriptions and timelines are subject to change at the discretion of the Professor.

Syllabus Addendum

Each student in this course is expected to exercise independent scholarly thought, expression and aptitude. This addendum to the course syllabus is provided to assist you in developing and maintaining academic integrity while seeking scholastic success.

General Comments:

- All academic exercises (including assignments, essays, laboratory experiments and reports, examinations, etc.) require individual, independent work. Any exception(s) will be clearly identified.
- Be sure your name or identifying number is on your paper.
- Complete and turn in academic exercises on time and in the required format (hardcopy, electronic, etc.).
- Retain confirmation of document delivery if submitted electronically.
- Retain all research notes and drafts until the project or assignment has been graded.
- Obtain written authorization from your instructor prior to submitting a portion of academic work previously submitted for any academic exercise. (This includes an individual or group project submitted for another course or at another school.)

Essays and Significant Papers:

Be prepared
- To present periodic drafts of work in process
- To correctly and completely reference all sources of information using the citation format prescribed
- To turn your completed assignment in timely and in the prescribed manner (electronic, hardcopy, etc.)

Examinations:

Be prepared
- To leave all personal belonging at the front of the room or other designated location (this includes cell phones, turned off of course, and beverage containers)
- To present your UTD Comet Card
- To remove your cap or hat
- To remove the batteries from any electronic device (e.g. calculator)
- To change seating
- To sign out when exiting the testing room
- To be escorted for lavatory use

All episodes of suspected scholastic dishonesty will be reported according to University policy. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students and the University, policies on scholastic dishonesty will be strictly enforced. Penalties that may be assessed for scholastic dishonesty may be reviewed in *Subchapter D. Penalties* at http://www.utdallas.edu/student/slife/chapter49.html