



Course CS3345.501.16F
Course Title Data Structures and Introduction to Algorithmic Analysis
Professor Kamran Z. Khan
Term 2016 Fall Semester
Meetings Mon/Wed: 5:30pm-6:45pm [GR 2.302](#)

Professor's Contact Information

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Other Information I do not read eLearning email

General Course Information

Pre-requisites, Co-requisites, & other restrictions	(CE 2305 or CS 2305 or TE 2305 with a grade of C or better) and (CE 2336 or CS 2336 or TE 2336 with a grade of C or better). Prerequisite or Corequisite: (CS 3341 or SE 3341 or ENGR 3341). (Same as CE 3345 and SE 3345 and TE 3345) (3-0) S
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
Learning Outcomes	1. Ability to use/analyze Asymptotic notations, recurrences, algorithm analysis 2. Ability to use/analyze Lists, stacks, queues, hashing, priority queues 3. Ability to use/analyze Binary search trees, Balanced binary search trees 4. Ability to use/analyze Graphs, Depth-first search, Topological ordering 5. Ability to use/analyze Breadth-first search, Dijkstra's algorithm 6. Ability to use/analyze Algorithms of Prim and Kruskal, Disjoint-set Union-Find problem
Required Texts & Materials	Data Structures and Algorithm Analysis in Java (3 rd Edition) by Mark A. Weiss ISBN-13: 978-0132576277 ISBN-10: 0132576279
Suggested Texts, Readings, & Materials	TBD

Assignments & Academic Calendar

[Topics, Reading Assignments, Due Dates, Exam Dates]

Class	Date	Material Covered
1, 2	Aug 22, 24	Introduction, Chapter 1
3, 4	Aug 29, 31	Chapter 1, Chapter 2
5	Sep 5*, 7	Holiday*, Chapter 2
6, 7	Sep 12, 14	Chapter 3
8, 9	Sep 19, 21	Chapter 3, Review
10, 11	Sep 26, 28	Exam 1 (Chap 1-3), Chapter 4
12, 13	Oct 3, 5	Chapter 4
14, 15	Oct 10, 12	Chapter 5
16, 17	Oct 17, 19	Chapter 6
18, 19	Oct 24, 26	Chapter 6, Review
20, 21	Oct 31, Nov 2	Exam 2 (Chap 4-6), Chapter 7
22, 23	Nov 7, 9	Chapter 7
24, 25	Nov 14, 16	Chapter 8
	Nov 21, 23	Fall Break (no classes)
26, 27	Nov 28, 30	Chapter 9
28, 29	Dec 5, 7	Chapter 9, Final Review
	TBD	Final Exam (Comprehensive)

Course Policies

Grading (credit) Criteria	Exam 1: 15%; Exam 2: 15%; Final Exam 25% Assignment Average: 20%; Project Average: 25% All programming projects must be demonstrated to the instructor or the TA for the student to receive a grade on them. To pass the course, a student has to pass separately in examinations and programming projects. In order to obtain an “A” or “A-” grade a student must perform above class average in the examinations, as well as above the class average in the programming projects. This is the minimum requirement, and satisfying this requirement does not guarantee an A or A- grade.
Make-up Exams	Make-up examinations will be offered only if the student has a valid medical If a student has to be absent for several classes because of job related obligations, he/she will not be eligible for an incomplete grade. In such instances the student is advised to drop the course.
Extra Credit	No extra credit work will be assigned.
Late Work	Programming projects submitted after the due date will be penalized at the rate of 10% of the total credit for that project for every day (not including weekends and holidays) by which they are late. Late submissions will not be accepted once the solution has been discussed in class and the graded submissions have been returned.
Class Attendance	Regular attendance is highly recommended. Unexcused absence in three successive lectures will result in a dropping of one letter grade; and four successive lectures will result in a failing grade (as per the Computer Science department’s policy)
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	<i>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:</i> <i>“As a Comet, I pledge honesty, integrity, and service in all that I do.”</i>
UT Dallas Syllabus Policies and Procedures	<i>The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus.</i> <i>Please go to http://go.utdallas.edu/syllabus-policies for these policies.</i>

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