

CS 3353: Data Structures and Algorithm Analysis I

Term Fall 2019

Meetings: Wednesday: 4.30-7.10 pm, NCB 248

Contact Information

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TA Information

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General Course Information

Pre-requisites, Co-requisites: CS 2133, CS 3653

Course Description:

Storage, structures, data and information structures, list processing, trees and tree processing, graphs and graph processing, searching, and sorting.

Required Text:

Cormen, Leiserson, Rivest, and Stein. *Introduction to Algorithms*, ISBN: 978 0 262 03384 8, 3/E, MIT Press, 2009.

Reference:

Goodrich, Goldwasser: *Data Structures & Algorithms*, ISBN: 978 1 118 77133 4, 6/E, Wiley, 2014.

Assignments & Academic Calendar

Week #	Day/ Date	Material to be Covered	Text
1	Aug 21	The Role of Algorithms in Computing, Insertion sort	Chap 1 Chap 2
2	Aug 28	Asymptotic notation Divide and Conquer	Chap 3 Chap 4
3	Sept 4	Sorting: Heap sort Sorting: Quick sort	Chap 6 Chap 7
4	Sept 11	Sorting in Linear time Data Structures: - Stacks and queues - Linked lists	Chap 8 Chap 10
5	Sept 18	Data Structures: - Stacks and queues - Linked lists	Chap 10
6	Sept 25	Test 1	
7	Oct 2	Hash tables	Chap 11
8	Oct 9	Binary Search Trees	Chap 12: 12.1-12.3
9	Oct 16	Red-black trees: - Insertion, Deletion, Quiz	Chap 13: 13.3
10	Oct 23	Dynamic Programming -knapsack problem	Chap 15
11	Oct 30	Greedy Algorithms, Elementary graph algorithms	Chap 16, Chap 22
12	Nov 6	Test 2	
13	Nov 13	Minimum Spanning Trees: Kruskals algorithm, Prim's algorithm	Chap 23
14	Nov 27	Shortest paths: Dijkstra's algorithm	Chap 24
15	Dec 4	Shortest paths: Dijkstra's algorithm	Chap 24
	Dec 11	Final	

Exams

There will be two tests, one Quiz and a Final exam.

Test 1: Wed, Sept 25

Quiz : Wed, Oct 16

Test 2: Wed, Nov 6

Final: Wed, Dec 11

Grading (credit) Criteria	The grade will be determined as described below.	
	Test 1:	15%
	Test 2:	15%
	Quiz:	5%
	Final Exam:	20%
	Assignments[8]:	40%
	Attendance:	5%

	<p>There will be 8 assignments. Grades are assigned according to the following scale:</p> <p>[>=91%] A [81-91%] B [71-81%] C [60-71%] D [0-59%] F</p>
Make-up Exams	Make-up exams are only given to those students who coordinate the missing of an exam prior to the originally scheduled exam date and time.
Extra Credit	
Late Work	Assignments are due in class/ online on the dates given. If a student submits an assignment after the due date without having made arrangements with the instructor, a minimum of 15 points (based on an assignment grading scale of 100 points) or 15 percent of the total points will be deducted for each day, or part thereof, that the assignment is late.
Class Attendance	Class attendance will be documented

OSU Academic Integrity Policy:

OSU is committed to maintaining the highest standards of integrity and ethical conduct. This level of ethical behavior and integrity will be maintained in this course. Participating in a behavior that violates academic integrity (e.g., unauthorized collaboration, plagiarism, multiple submissions, cheating on examinations, fabricating information, helping another person cheat, unauthorized advance access to examinations, altering or destroying the work of others, and altering academic records) will result in an official academic sanction. Violations may subject you to disciplinary action including the following: receiving a failing grade on an assignment, examination or course, receiving a notation of a violation of academic integrity on your transcript, and being suspended from the University. You have the right to appeal the charge. Go to <http://academicintegrity.okstate.edu/> for a video on OSU's academic integrity policy and additional information.