CSE 2011Z (W) 2009-10 Fundamentals of Data Structures
Ross N203 Tues Thurs 13:00-14:30

Instructor Information:
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General Description:
This course introduces the key data structures underlying widely-used algorithms. Emphasis is placed
upon expression of these data structures as abstract data types (ADTs), and their implementation in an
object-oriented context. (See the schedule on Page 3 for the list of topics to be covered.)

Outcomes:
By the end of the course, students will be familiar with the more prevalent data structure patterns, and
will be able to design and implement variations on these patterns to solve a broad range of real-world
problems.

Required Text:
❖ Goodrich, M.T. & Tamassia R. (2006). *Data Structures and Algorithms in Java (4th ed.)* John
   Wiley & Sons. Available in the York University Bookstore.

Drop Date: March 8, 2010
Winter Exam Period: April 7 – April 23

Summary of Requirements:

Component	Weight
Lab tests (closed book)	20%
Midterm test (closed book)	30%
Final exam (closed book)	50%

Last updated: Feb 4, 2010

Practice Labs:

Assignment 1

Date	Time	Location	TA
Fri Jan 29	16:00-18:00	CSEB 1006	Ron
Tues Feb 2	14:30-16:30	CSEB 1006	Serene

Assignment 2

Date	Time	Location	TA
Fri Mar 12	16:00-18:00	CSEB 1006	Ron
Tues Mar 16	14:30-16:30	CSEB 1006	Serene

Policy on Missed Tests:
There will be no make-up tests for the lab tests or midterm. For students who miss a test due to a medical or non-medical emergency, the final grade will be based upon the other tests and final exam. To qualify for this option, the student must contact **Prof. Elder** in person or by telephone or email within **48 hours** of the missed test.   Appropriate documentation verifying the circumstances of the emergency must be provided. Failure to provide appropriate documentation will result in a grade of 0 on the missed test.

What is appropriate documentation?
a) **medical circumstances** – tests missed due to medical circumstances must be supported by an attending physician's statement or a statement by a psychologist or counselor. The physician's statement <u>must</u> include the following:
    i) full name, mailing address, telephone number of the physician.
    ii) state the nature of the illness and its duration (i.e., specific dates covered), and
    iii) an indication of whether the illness and/or medication prescribed would have SERIOUSLY affected the student's ability to study and perform over the period in question.

NOTE: the physician's office may be contacted to verify that the forms were completed by the physician.

b) **non-medical circumstances** – tests missed due to non-medical circumstances must be supported by appropriate documentation, i.e., death certificates, obituary notice, automobile accident reports, airline/bus ticket/receipt for emergency travel (with date of booking on ticket), etc. Airline/train/bus ticket/receipts for emergency travel must indicate destination, departure, and return dates. Having to work is not considered a valid excuse for missing a test.

Schedule (approximate)

Date	Topic	Readings	Graded Work	Deadlines
Tues Jan 5	Introduction			
Thurs Jan 7	Analysis Tools	4		
Tues Jan 12	Arrays, Array Lists & Stacks	3.1, 5.1, 6.1		
Thurs Jan 14	Queues & Linked Lists	3.2-3.3, 5.2		
Tues Jan 19	The Java Collections Framework	6.3-6.4		
Thurs Jan 21	Recursion	3.5	Assignment 1 posted	
Tues Jan 26	Trees	7		
Thurs Jan 28	Heaps	8.3		
Tues Feb 2	Priority Queues	8.1-8.2		
Thurs Feb 4	Lab Test 1		Lab Test 1	
Tues Feb 9	Maps, Hash Tables, Dictionaries	9.1-9.3		
Thurs Feb 11	Review		Lab Test 1 returned	
Tues Feb 16	Reading Week			
Thurs Feb 18	Reading Week			
Tues Feb 23	Midterm (Vari Hall C)		Midterm	
Thurs Feb 25	Search Trees	10		
Tues Mar 2	Search Trees	10		
Thurs Mar 4	Midterm Postmortem		Midterms returned Assignment 2 posted	Drop date is Mar 8
Tues Mar 9	Sorting	11.1-11.5		
Thurs Mar 11	Sorting	11.1-11.5		
Tues Mar 16	Graphs	13.1-13.2		
Thurs Mar 18	Lab Test 2		Lab Test 2	
Tues Mar 23	Graph Search	13.3		
Thurs Mar 25	Directed Graphs	13.4		
Tues Mar 30	Weighted Graphs	13.5-13.6	Lab Test 2 returned	
Thurs Apr 1	Review			

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