

CSC403 Data Structures II - Syllabus

Contact Information

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Course HomePage

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Section 701

Classroom: Lewis, Room 1214
Lecture Dates: Sep 12 - Nov 14
Time: Th 5:45pm - 9:00pm
Final Exam: Nov. 21, Room 1214, 5:45

Section 710 (Online only)

Lecture Dates: Sep 12 - Nov 14
Final Exam: Arrange Proctor between Nov 15 and Nov 21

Withdraw Dates

Last Date to withdraw with tuition refund:
September 24
Last Date to withdraw (no refund): October 29

Course Summary

This is the second course on data structures in Java for graduate students. The course covers trees, heaps, associative arrays, hash tables, tries, and data structures for representing graphs. The implementation of the basic operations on each data structure are discussed and analyzed in terms of their efficiency.

Objectives

At the end of the course, students should be able to:

- choose appropriate existing abstract data types to provide clear and correct program solutions.
- understand the performance characteristics of data type implementations.
- use tools to test correctness of data type implementations
- competently use both iterative and recursive techniques to implement abstract data types and programs.
- use dynamic debugging tool

Prerequisites

CSC402 Data Structures I

Text/Resources

The text is available through DePaul Library's [Safari](#) subscription in case you are delayed in getting the book. The recommended books are also available through Safari.

Required Text

Sedgewick, Robert and Wayne, Kevin, [Algorithms](#), Fourth edition.
ISBN: 978-0-321-57531-3



Be sure to use this edition. If you don't have access to the book yet, partial contents, selected book exercises, etc., are available on the book site (click on the book). The full text is also available for web browsing only through [DePaul Library e-books](#) 24x7 (See Safari Books Online).

Recommended Books

- Joshua Block, "Effective Java"
Not a Java text; good advice on how to use Java features effectively.
- Java Texts (good if you need a java text with more details than the course text)
 - Kathy Sierra and Bert Bates, "Head First Java" ISBN: 978-0-596-00920-5
 - Cay Horstmann, "Big Java"

Software

The Eclipse IDE will be used for Java programming, testing (JUnit), and debugging in the lectures and assignments.

Tentative Schedule

Week	Topic	Text Sections
1	Symbol Tables, Applications	3.1 and 3.5
2	Binary Search Trees	3.2
3	Balanced Search tRees	3.3
4	Hash Tables	3.4
5	Undirected Graphs	4.1
6	Directed Graphs	4.2
7	Minimum Spanning Trees/Shortest Paths	4.3 and 4.4
8	String Sorts and Tries	5.1 and 5.2
9	Data Compression	5.5
10	Review	
11	Final Exam	

Assessment

Quizzes

Short weekly online quizzes will be given with questions that should be answered easily if you have read that week's text section. The lowest score will be dropped.

Program Assignments

Programs will be assigned regularly. Each program will have a specified due date of either 1 or 2 weeks. Late programs may be submitted with one 1 week after the due date, but will incur a 10% late penalty after the official due date.

Midterm Exam

An online midterm exam will be given in the 6th week.

Final Exam

The final exam will be inclass (or for online students, a proctored exam)

Percentage of Final Grade

Quizzes: 10%
Programs: 35%
Midterm Exam: 25%
Final Exam: 30%

Final Course Grade Based on Total Percentage Earned

A : 93 - 100
A-: 90 - 92
B+: 88 - 89
B : 83 - 87
B-: 80 - 82
C+: 78 - 79
C : 73 - 77
C-: 70 - 72
D : 60 - 69
F : 0 - 59

Expectations

- It is expected that you read each week's text sections before taking the corresponding online quiz.
- You may discuss the program assignments with me or with other members of the class (but do not copy others' material).
- You should start assignments early to avoid late penalties.

Incomplete Grades

A grade of IN (incomplete) may be given only in unpredictable and unexpected circumstances. It should be requested two weeks before the final exam, approved by the instructor and also by an associate dean of CDM. If approved you will have one quarter to complete the work. See [CDM's incomplete policy](#) for details.

Academic Integrity

All work submitted should be your own. You may have general discussions with the instructor and others about assigned programs and assignments. However no code should be solicited or copied from others. Code copied from the text or the text web site is allowed provided you clearly indicate the source in a comment in your code.

Copying code and submitting it as your own is a violation of DePaul's [Academic Integrity Policy](#).