

## CSC301 Data Structures II - Syllabus

### Contact Information

**Instructor:** Glenn Lancaster  
**Office:** 832 CDM  
**Email:** glancast@cs.depaul.edu  
**Office Hours:** MW 2:00 - 3:00 and  
by appointment  
**Phone:** 312-362-8718

### Course HomePage

[d2l.depaul.edu](http://d2l.depaul.edu)

### Section 401

**Classroom:** Lewis, Room 1509  
**Lecture Dates:** Sep 11 - Nov 18  
**Time:** MW 3:10pm - 4:40pm  
**Final Exam:** Monday Nov. 25, Room 1509, 2:45 - 5:00

### 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. The course covers trees, heaps, associative arrays, hash tables, tries, and data structures for representing graphs. Implementations 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

CSC300 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

Segdewick, 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                            |               |

## 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.

## 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

## Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at:

Student Center, LPC, Suite #370  
Phone number: (773)325.1677  
Fax: (773)325.3720  
TTY: (773)325.7296

## 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](#).