

## CSC402 Data Structures I - Syllabus

### Contact Information

**Instructor:** Glenn Lancaster  
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**Office Hours:** Tues 4:00 - 5:30  
and by appointment  
**Phone:** 312-362-8718

### Course HomePage

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

### Section 901

**Classroom:** Lewis, Room 1507  
**Lecture Dates:** Apr 01 - Jun 3  
**Time:** Tues 5:45pm - 9:00pm  
**Final Exam:** Tuesday Jun 10, Lewis Room 1507, 5:45pm

### Section 910 (Online only)

**Lecture Dates:** Apr 01 - Jun 3  
**Final Exam:** Arrange Proctor between Jun 4 and Jun 10

### Withdraw Dates

**Last Date to withdraw with tuition refund:**  
April 11  
**Last Date to withdraw (no refund):** May 16

## Course Summary

This is the first course in a two-course sequence on data structures using Java. The course introduces basic Java programming, reviews recursion, introduces asymptotic notations, and focuses mainly on linear data structures including arrays, linked lists and their variants, stacks and queues, and data structures supporting disjoint-set operations. The implementation of the basic operations on each data structure are discussed and analyzed in terms of their efficiency. The applications covered highlight and exploit the unique characteristics of the data structures, and emphasize problem solving and recursive thinking.

## Objectives

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

- Use Basic OO programming techniques
- Use debuggers
- Use testing tools
- Understand correctness of programming
- Understand performance characteristics of programs
- Have basic competence using iterative and recursive solutions to problems

## Prerequisites

CSC242 or csc243

## 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 as noted.

### Required Text

#### Text

Sedgwick, 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/References for Java Language

#### Online Java References

- Brad Miller and James Riely, [Java For Python Programmers](#)
- Allan Downey, [How to Think Like a Computer Scientist \(other format\)](#)
- [MIT Notes](#)

#### 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	Java and Eclipse: Arrays, Iteration and Recursion	1.1
2	Data Abstraction, Objects, References	1.2
3	Linked Structures	1.3
4	Linked Structures and Resizing Arrays	1.3
5	Analysis	1.4
6	Midterm and Union Find	1.5
7	Union Find and Elementary Sorts	1.5 and 2.1
8	Elementary Sorts	2.1
9	Priority Queues and Heaps	2.4, 2.5, 6.1
10	Mergesort, Quicksort and Review	2.2, 2.3
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 and understood that week's text section.

### Program Assignments

Programs will be assigned regularly. Each program will have a specified due date of either 1 or 2 weeks. Programs may be submitted after the due date, but will incur a 12% late penalty if submitted 1 week or more after the official due date.

### Exams

The (online) midterm exam will be given in the 6th week.

The final will be given in the 11th week.

For section 901, the exam will be in the regular class room Tuesday, June 10.

For section 910, you should schedule a proctor and take the exam between June 4 and June 10.

### 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](#).