

CS 1520

Data Structures

Spring 2015

<http://www.cns.uni.edu/~mccormic/1520/>

Instructor

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<http://www.cns.uni.edu/~mccormic/> ← **Check web page for schedule of office hours**

Course Content

This is the second course for students with a serious interest in Computer Science, primarily Computer Science majors and minors. You will study continue your study of functional decomposition. You will learn the data structures and accompanying algorithms that are most fundamental to our discipline and analyze various implementations of them.

Prerequisites (Minimum grades of C are required)

CS 1510 Introduction to Computer Science
CS 1800 Discrete Structures (may be taken concurrently with this course)

Required Texts (see my home page for textbook error corrections)

Programming and Problem Solving with Ada 95 (2nd edition) by Nell Dale, Chip Weems, and John McCormick. Published by Jones & Bartlett, 2000. ISBN 0-7637-0792-9

Ada Plus Data Structures: An Object-Oriented Approach (2nd edition) by Nell Dale and John McCormick. Published by Jones & Bartlett, 2007. ISBN 0-7637-3794-1

Equipment

USB Memory stick (at least 1 Gb) for use in the lab.

Written Quizzes

I will give a short quiz every Monday. You may use any handwritten notes to help you answer the quiz questions. You may **not** use any books, old quizzes, class handouts, photocopies, or printouts. Many of the quiz questions will come from the questions assigned from the textbooks. Be sure to do the reading and write your answers to the assigned questions in your notebook.

Final Exam

A comprehensive final exam for this course will be given at 10:00 - 11:50 am on Tuesday May 5. As with the quizzes, you may use any handwritten notes. You may **not** use any books, old quizzes, class handouts, photocopies, or printouts.

Electronic Devices in the Classroom

Cell phones, pagers and PDA's may not be used during class. Use of personal laptops in class is not permitted. This is due to past problems with people using laptops in class to email, chat, IM, browse, play games, work on assignments for other classes, display images/videos, etc. These activities are incompatible with a college classroom and create a distraction to neighbors and people seated in rows further back. As a result, the UNI Faculty Senate has established a policy that laptops may not be used without instructor consent.

Laboratories

The weekly laboratory portion of this course provides hands-on experience with the theory and concepts presented in the lecture and textbook. Each laboratory consists of three parts:

Prelab

Due in the first ten minutes of your next scheduled Thursday laboratory meeting. Each Prelab prepares you for the exercises that you will complete in your laboratory session. Not accepted late; be sure to show up to your laboratory meeting on time.


Inlab

Due at the end of each laboratory meeting. Each exercise provides experience with an important concept. Some exercises will be done alone and some with a partner. Several instructors will be present to assist you and to check your work. At least 75% of the inlab assignment must be completed during the scheduled laboratory time to receive credit. The remaining 25% must be brought to me during my office hours sometime on or before the next Wednesday.

Postlab

These programming assignments are usually due before class starts on Friday. I will announce the due date and time when each is distributed. Postlabs will **not** be accepted after the due date and time.

Postlab assignment grades will be based heavily on your programming style (see Appendix H, Dale, Weems, and McCormick). However, no matter how good the programming style, a Postlab assignment will not receive above a 60% unless it produces a complete set of correct answers.

 You *must* turn in some work for each Postlab assignment. I will lower your final grade in the course by one full letter grade for each assignment that you fail to turn in (by the due date and time) *some evidence* (printouts or hand written notes) that you put some effort into the assignment.

Plagiarism

Cooperative study and mutual aid are healthy learning methods and are strongly recommended. Feel free to discuss design and testing issues with your classmates. All work submitted is to be your own — you must write your own program code. Plagiarism is copying or using someone's work or allowing someone to copy or use your work. A program that shows evidence of plagiarism will receive a grade of 0, the course grade will be lowered one full letter grade, and a letter sent to the Department Head and the Vice President for Academic Affairs. A second instance of plagiarism will result in a grade of F in the course. See <http://www.uni.edu/pres/policies/301.shtml> for more details on UNI's plagiarism policies.

Grading

You should save all the files you used in Inlabs and Postlabs until you receive your final grade.

The final grade will be computed as follows:

Prelabs & Inlabs	10%
Postlabs	25%
Written Quizzes	45%
Final Exam	20%

For the amount of effort required, the Postlab grade contributes only slightly toward your final grade. But, at my discretion, I may raise your final grade if your assignments are consistently excellent in quality or lower your final grade if they are poor. Programming assignments are important to learning data structures. Do not expect to receive a final grade that is much higher than your Postlab average.

"The Americans with Disabilities Act of 1990 (ADA) provides protection from illegal discrimination for qualified individuals with disabilities. Students requesting instructional accommodations due to disabilities must arrange for such accommodation through the office of Students Disability Services. SDS is located at 103 Student Health Center, the web site is at <http://www.uni.edu/sds/>, and the phone number is: 273-2676."