

Northern Michigan University  
(Marquette County, MI)[NMU]  
CS 422-01-13W  
Algorithms Design and Analysis

3 credits

Monday Wednesday Friday 1:00 – 1:50 P.M.

Monday 14 January 2013 through Friday 26 April 2013

except Monday 4 March 2013 through Friday 8 March 2013

Final Exam: Wednesday 1 May 2013 12:00 – 1:50 P.M.

1209 New Science Facility

Instructor: Andy Poe, 1129 New Science Facility, 227-1598

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This class gives an overview of algorithm design, which is to say how to design a program to solve certain kinds of problems. It is required for Computer Science majors.

Text: *Introduction to Algorithms*, Third Edition, Thomas H. Cormen, Charles H. Leiserson, Ronald L. Rivest, Clifford Stein, ISBN 978-0-262-03384-8

This book is available at the Bottum University Center Bookstore.

Laptop Policy: Although this is a Computer Science course, the use of a laptop in class is forbidden in class and on exams. There will be exceptions to this policy, such as when we install software or when we have lab days. But, in general, if I'm lecturing, no laptops, or any other distracting electronic equipment such as Walkmans, iPods, cell phones, etc.

Courseload: There will be weekly written homework assignments and frequent programming assignments that may overlap the written assignments. These will comprise 60% of your final grade. There will be two in-class exams each comprising 10%, and a final exam comprising 20%. These exams are optional; taking the exams can only help you, they cannot hurt you.

Late Policy: Late programming assignments lose 10% per day (Monday, Wednesday, and Friday) until they are submitted. Late homework assignments will not be accepted at all.

Office Hours: Monday Wednesday Thursday Friday 2:00–5:00 P.M. or by appointment. You are free to stop by my office anytime you like, within or without the posted office hours; however, I eat my lunch from 12:00–1:00 P.M., and I would appreciate if you didn't visit then.

Electronic Contact: Feel free to contact me at any of the above addresses. My IM services are usually running 24/7, but that doesn't mean I'm looking at them 24/7. I will get back to you as quickly as I reasonably can. Feel free to add me as a Facebook friend if you like. I really have better things to do than to check out your nasty, nasty pictures, so don't worry about that.

Statement on Plagiarism: Plagiarism is the submission of someone else's work as your own. It applies just as strongly when the work is to be written in a computer language as when it is written in a human language. All of the work you submit must be entirely your own. All of it. Your friends may not write code for you, nor may your classmates, nor tutors, nor professors. You may not use code found in books or online. All of your code must come from you. Period. Academic fraud is very serious and will be dealt with according to NMU policy.

While all code must come from you, you are allowed to work in groups for the written homework if you would like. For the written assignments, you are not allowed to get help from the web, the library, other professors, other books, or anyone unaffiliated with the course. All solutions to the problem must come from your group. You *must* write up your solutions yourself in your own words. It is unacceptable for a homework assignment to be submitted with multiple names. It is unacceptable for multiple copies of a homework solution to be submitted by more than one person. You must demonstrate that you understand the solution well enough to write it up in your own words.

Course Objectives: At the conclusion of this course, the successful student should be able to understand asymptotic complexity at the level of analyzing reasonably sophisticated algorithms. The successful student should be able to understand common algorithm design techniques and be able to compose efficient algorithms for nontrivial problems. The successful student should also be familiar with specific, well-known algorithms to solve certain problems. The successful student should be able understand the concept of NP-completeness and be able to prove NP-completeness of certain problems.

Disability: If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Disability Services Office by: coming into the office at 2001 C. B. Hedgcock; calling 227-1700; or e-mailing [disserv@nmu.edu](mailto:disserv@nmu.edu). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.