

Course Syllabus

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44-599: Special Topics: Analysis of Algorithms

Course Information

Course Number 44-599-01
Venue VLK 117
Meeting Time MWF 9:00 - 9:50 AM

Instructor Information

Instructor Dr. Nathan Eloe
Office Colden Hall 1804
Office Hours MW 1:00PM-3:00PM, T 11:30AM-12:30PM, R 3:30PM-4:30PM, F 1:00PM-2:00PM, and by appointment
Email nathane@nwmissouri.edu (<mailto:nathane@nwmissouri.edu>)

Course Description

This course is an in-depth study of algorithms, including the analysis of algorithms, advanced analysis techniques, and categorizations of algorithms.

Reference Material

Textbook

There is no textbook for this course. Course slides and additional materials will be made available on the course website. Additional material will be presented in class.

Potential Topics

Topics introduced in this course may include (but are not limited to):

- Mathematics Review
- Algorithm Analysis
- Recurrences/Divide and Conquer
- Searches and Sorts
- Algorithms in Data Structures
- Graph Algorithms
- Amortized Analysis
- Hard Problems

Software

For this course, there will be several programming projects where you will be timing the execution time of algorithms you implement. You may choose to write your solutions in any programming language you wish. If you choose a language beyond C/C++, Java, or Python, you will need to provide me with instructions to set up an environment to execute your programs to ensure their correctness.

I will provide several sources of information in this course. Some slides will require PowerPoint to open and view. Others will require a PDF reader.

Attendance

It is your responsibility to be in class. You will not be able to make up any points missed for in class exercises, quizzes, basic skills assessments, etc, in the event of an unexcused absence. An unexcused absence is any absence not cleared by the instructor before the class time.

Communication

Announcements will be made during class and communicated via the course website. In the event you need to contact the instructor via email, please include the course number (44-349) in the subject of the email and identify yourself by name. Use meaningful subject messages.

Assessment

Assessment will take the following forms:

Exams

Exams will be announced at least one week before the exam will be given. A portion of the class before the exam will be devoted to review time.

Final Exam

The Final Exam will be in the regular classroom on Wednesday, April 26, 2017, from 7:30-9:30AM.

Programming Projects

Periodically you will be required to write programs where you will implement various algorithms discussed in the course and determine their execution time. You may discuss the projects with each other, but you are responsible for writing your own code and responses to the questions posed as part of the assignment.

Papers and Presentations

You will be writing papers and giving presentations in this class; these activities will be based on some of the programming projects mentioned above, plus additional research in the given topic. Papers will be evaluated on correctness, quality of writing, and adherence to guidelines (including the academic honesty guidelines involving plagiarism). Presentations will be evaluated on the quality of the presentation, correctness of the information presented, and the quality of slides (if used).

Quizzes and Worksheets

You will be assigned exercises to do on your own time. At any time, the instructor may choose to give a quiz in lieu of collecting an assigned worksheet.

Academic Honesty

The policy stated in the Northwest Missouri State University Undergraduate (or Graduate) Academic Catalog will be followed. The document entitled Academic Integrity in CSIS Classes, posted on the course website, clearly explains those types of behavior that would be considered academic dishonesty. You are responsible for reading this document and also the policy as stated in the Graduate Catalog and abiding by the guidelines described therein.

Note that plagiarism includes, but is not limited to, failure to give credit for help received on a homework assignment. Also note that all assignments are to be done individually, unless specified otherwise. You may talk to classmates and other students about an assignment, but you must do all the work yourself from beginning to end. Two or more students may sit down together and discuss an assignment as they are working on it, but each student must do his/her own work in completing the assignment. You cannot copy another person's code or written work. You cannot copy database objects or any portion of a database from another student's files.

Failure to follow these guidelines and the remaining guidelines described in the CSIS Academic Integrity Policy will be subject to the penalties described in the catalog

Accommodations

Students in this course who need disability accommodations/modifications should present a copy of their official Northwest accommodation letter from the LAP/S Committee to the instructor during private office hours as early in the term as possible. Additional information can be found online at www.nwmissouri.edu/swd.

Syllabus Changes

The instructor reserves the right to modify this document at any time. Any changes to the document will be communicated to students either in person or via email.

Assignments Summary:

Date	Details
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