CS 422 Fall 2002 **SYLLABUS** August 28, 2002

Instructor: Jeffrey Horn, email: jhorn@nmu.edu
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Office Hours: MWF 11:00am-12:00noon, are open office hours, no appt. necessary
Wed 12:00noon-5:00pm, Thur 11:00am-2:00pm, and Fri. 12:00noon-1:00pm are by appointment only (email me! and wait for my response!)

Textbook (required): *Introduction to Algorithms*,
by Cormen, Leiserson, & Rivest, available in Campus Bookstore

Classroom: New Science Building, Room 1209
Meeting Times: 10:00 - 10:50 am, MWF
Prerequisites: CS 222 and MA 240 or MA 340
Our web page: http://cs.nmu.edu/~jeffhorn/Classes/CS422/Fall2002

(I will use the web page EXTENSIVELY, posting everything I can up there as soon as possible. This includes all electronic forms of handouts, assignments, solutions, sample tests, etc. Also I will post announcements, links to interesting, topic-related sites, etc. So please check our page regularly! At the very least, twice a week. We will also have a WebCT page for posting grades, etc.)

TOPICS: (tentative)

OVERVIEW

- ANALYSIS OF ALGORITHMS

  Big-Oh, Omega, etc. Notation

  Time and Space Complexity

- THEORY OF COMPUTATION

Abstract Models of Computation (Turing Machines, RAM model, etc.)

Complexity Hierarchy

Undecidability

NP-Hardness, NP-Completeness

- ADVANCED DATA STRUCTURES AND ALGORITHMS

Heaps and Priority Queues

Advanced Sorting

Advanced Trees

GRADING:

50% Written Homeworks and Programs
20% Quizes
10% Exams in-class and take-home
10% Final exam, comprehensive.
10% Instructor's discretion

Late Policy: For programs and homeworks, 5% off for each day late (counting only days that the university is open; e.g., **not** weekends or snowdays). But of course I cannot accept them after solutions are handed out! As for exams, those cannot be made up except under the most severe and extenuating emergencies! Don't take a chance if you don't have to! (If we have "enough" assignments and/or quizes, I will drop the lowest grade in that category.)

COMPUTING FACILITIES:

Your NMU ThinkPad. And perhaps, optionally, the Parallel Computing Lab and the Linux Lab.

NOTE: If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Disability Services Office at 1104 University Center (227-1737; TTY 227-1543) 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.