

Instructor: Jeffrey Horn,
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Office Hours: MWF 11:00am-12:00noon, are open office hours, no appt. necessary
Weds, Thurs, and Fridays 12:00noon-1:00pm, are by appointment only (email me! and wait for my response!)

Textbook: *Discrete Mathematics and Its Applications (5th ed.)*, by Ken. H. Rosen

Classroom: NSF 1205

Meeting Times: 10:00am M, W, Fr

Prerequisites: CS 122 (or equivalent programming experience)

Our web page: <http://cs.nmu.edu/~jeffhorn/Classes/MA240/Winter2003>

(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, once a week. Also, our textbook has an associated web page which we will also use extensively, at <http://www.mhhe.com/rosen>. I will link to appropriate pages from ours, but I suggest you browse it on your own too! I will also use your nmu email address for notices, and our class WebCT page for grade posting.)

TOPICS: (tentative)

LOGIC (propositional, proof by induction)

BOOLEAN ALGEBRA

propositional calculus
switching (combinational) circuits
minimization/cannonical forms

RELATIONS and FUNCTIONS

sets
binary, n-ary relations
properties: transitive, reflexive, symmetric
equivalence relations, partial orders

COMBINATORICS

permutations
combinations
orderings (full, partial)

GRAPH THEORY

trees, directed graphs, lattices
cycles, circuits, tours, cut sets, etc.

GRAPH ALGORITHMS

shortest paths, spanning trees,
network flow optimization

COMPLEXITY ANALYSIS

order notation, $O(n)$, etc.

COMPUTATION MODELS

finite state machines (automata, Mealy/Moore machines)
push-down automata

RECURRENCE RELATIONS

solving,
generating functions

GRADING:

50% Homeworks. Drop the lowest TWO homework grades (if ≥ 8 HWs, drop lowest ONE otherwise)

20% Quizzes. Drop the lowest (ONE) grade.

10% Midterm exam, comprehensive.

10% Final exam, comprehensive.

10% Instructor's discretion.

COMPUTING FACILITIES:

We might use Maple or some other package for symbolic manipulation and graphing of numerical results. No software purchases will be necessary.

NOTE: *If you have a need for disability-related accommodations or services, please inform your professor or the Office of Student Support and Disability Services at 1104 University Center (phone: 227-1737) 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.*