

**ECE 462/CS 462/MATH 491 Logic Design
Spring 2005**

Instructor: Nitin H. Vaidya, Phone: 265-5414 E-mail: nhv@uiuc.edu
Office Hours: Tuesday 2:00 - 3:30 or by appointment, room 458 Coordinated Science Lab.
Class: Monday-Wednesday-Friday 10:00 - 10:50 a.m., room 151 Everitt Lab.

Teaching Assistants: Lawrence Chen (lmchen@uiuc.edu) and Bright Chu (chu1@uiuc.edu).
Office hours to be announced later.

Course material:

- E. J. McCluskey, *Logic Design Principles* (available at Illini Union Bookstore)
- Additional materials may be made available by the instructor.
- Some reference books to be made available in the library.

Web Page: <http://www.crhc.uiuc.edu/~nhv/462/> (see the web page for information on the newsgroup for the course). Please visit the web site and the newsgroup frequently for course-related announcements.

Course Content: (a) Topics on combinational logic, including, canonical representation of boolean expressions, Karnaugh maps, prime implicants, minimal sum/product expressions, symmetric and threshold functions, transient analysis, hazards, hazard-free design and fault models. (b) Topics on sequential logic, including, latches and flip-flops, fundamental mode analysis, static hazards, races, essential hazards, flow tables, state assignment and state reduction, synchronizing and checking sequences, and machine identification. (c) Topics on fault detection and testing, including Boolean difference and path sensitization.

Course grading:

- Two tests: each worth 23% of the final grade
- Final examination: 45%
- Homeworks: 9%

See the course web site for a tentative schedule for the tests.

Late policy: Late homeworks will be accepted only with the approval of the instructor.
Penalty: 25% penalty if homework not turned in by the due time, and additional 25% penalty for each additional day the homework is late. Penalty will be waived only under extenuating circumstances (for instance, ill health), proof of which may have to be provided to the instructor.

Homework grading: For the homeworks, answers to only a subset of the questions will be graded for correctness of the answer and the procedure. Credit will be granted for attempting the other questions.