

**Department of Electrical and Computer Engineering
University of Wisconsin–Madison**

**ECE 553: Testing and Testable Design of Digital Systems
Fall 2009**

COURSE CONDUCT

TIME TABLE

Lecture: 11:00 – 12:15 TR
Location: 1164 Mechanical Engineering
Discussion: 4:00 – 5:00 T; 3534 Engineering Hall
(Optional)

INSTRUCTOR

Name: Kewal K. Saluja
Office: 4611 Engineering, 262-6490, saluja@engr.wisc.edu
Office hours: 2:30 PM to 3:30 PM Monday
(tentative) 2:00 PM to 3:00 PM Tuesday
2:00 PM to 3:00 PM Wednesday
Other days by appointment

TEACHING ASSISTANT

Name: Mr. Ameya Abhayankar
Office:

Office hours:

REQUIRED TEXT

- Michael L. Bushnell and Vishwani D. Agrawal, *Essentials of Electronic Testing for Digital, Memory, and Mixed-Signal VLSI Circuits*, Kluwer Academic Publishers, Boston, 2000.
- Notes from Bob's Copy Shop.

RESPONSIBILITY

You will be responsible to follow all the lectures and material prescribed from the text or the papers unless otherwise specified by the instructor. If you miss class, it is your responsibility to obtain assignments and other information given on the day you missed.

Unless otherwise specified, your work in this course is to be your own. In particular, use of software including script written wholly or partially by other students is specifically prohibited.

HOMEWORK

There will be approximately six to seven homework assignments, i. e., an assignment nearly one every two weeks. These assignments will involve some use of the workstations in CAE. You will be expected to learn the Unix operating system, editors, and applications software largely on your own. CAE offers some tutorials at the beginning of the semester. CAE does not provide significant consulting for these systems. With regard to questions on the homework, a teaching assistant will be available as well as the course instructor. **The teaching assistant is the primary source for answering the questions on the software tools.**

PROJECT

A project will be required. Student projects will involve developing a test set for a moderate size circuits using ATPG tools. Projects performed by groups of students will be in the area of testing software development but number of such projects permitted will be limited. Such a project will ordinarily involve two or three students. The information on projects will be provided during the course at an appropriate time. Because the computer system is often heavily loaded for it is used by many courses, you are *warned* that you must start on the projects you choose as early as possible. The projects are likely to be due well before the end of the semester to avoid conflict with other courses. Like homeworks, the project report should also be done neatly and should be submitted before the due date.

EXAMINATIONS

There will be a midterm and a final exam. The midterm exams will be an evening exam (please see the website), In all probability both these exams be closed book except for the use of one 8 1/2 by 11 sheet (both sides) containing your own notes. You are not allowed to bring cell phone(s) to the exam. The final will be comprehensive but will emphasize the material not covered by the midterm exam.

GRADING

The grade weighting for the course will be as follows:

Homework	20%
Project	20-25%
Midterm I	25%
Final	30-35%

CONSULTATION

Final office hours will be posted as soon as other regularly scheduled items for the semester are firm. Additional hours may be allocated if necessary. There is a teaching assistant assigned to the course particularly for the computing oriented homeworks and the project. Final Information on the teaching assistant and office hours will be provided when available.