Course:
CMPE 641: Advanced VLSI Design II.
Sections 0101.
Fall 2008. 3 credits.

Course Instructor:
Chintan Patel, Research Asst. Prof., Computer Science & Electrical Engineering
Office: ITE 322, Telephone: 410-455-3963
Email: cpatel2@csee.umbc.edu
Home Page: http://www.cs.umbc.edu/~cpatel2/
Office Hours: M&W 11:00-12:30pm or by appointment

Text:
No required text for this class

References:
• Micheal Smith, “Application-Specific Integrated Circuits”, Addison-Wesley (1997)
• Cadence online documentation (cdnshelp)
• Open Source Liberty (http://www.opensourceliberty.org)

Course Description:
This course introduces automated design tools, required for netlist synthesis, place & route and timing verification. Other advanced topics related to the design automation flow will be covered as time permits. Students will augment an existing standard cell library for their project. Tools from Cadence Design Systems will be introduced in this course. You should be comfortable with CMOS VLSI design, advanced logic design and computer architecture. You will be required to work individually or as part of a team on
CMPE 641: Advanced VLSI Design II

open ended course projects. Majority of the grade will be based on labs and class projects. As with all project-based courses there will be a time crunch closer to the end of the term. It is not recommended to take this course along with other courses that have significant end of term design projects. Reading assignments will be considered as part of the course and you might be asked to discuss the assigned papers in class or questions based on them can be asked in quizzes and exam. You are expected to submit detailed well written reports for each assignment. Part of the grade for each assignments will be based on the write-up.

Grading:

The distribution of weights is as follows:

| Labs/ Mini Projects | 40% |
| Final Project       | 40% |
| Quizzes & Exam (optional). Part of this grade is for the final exam. That portion of the grade will be distributed between other categories, if no final exam is given. The distribution will be discussed in class closer to the end of the term | 20% |

No incompletes will be given, except as required by university policy for truly exceptional circumstances.

Class Schedule

Lectures will be from 5:30 to 6:45 on Monday and Wednesday. Lectures will be held only during certain class sessions. Others will be used for tutorials and class discussions. Individual progress will be assessed by regular meetings with each student during normal class hours. The meeting times during each assignment will be announced in class.

NOTE: Cheating at any time in this course will cause you to fail the course.

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit these acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook, or the UMBC Policies section of the UMBC Directory [or for graduate courses, the Graduate School website].

The following is taken from the UMBC Student Handbook:

DEFINITIONS OF ACADEMIC MISCONDUCT

Academic misconduct may include but is not limited to the following:

Cheating: knowingly using or attempting to use unauthorized material, information, or study aids in any academic exercise.
Fabrication: Intentional and unauthorized falsification or invention of any information or citation in an academic exercise.
Facilitating Academic Dishonesty: Intentionally or knowingly helping or attempting to help another commit an act of academic dishonesty.
Plagiarism: Knowingly representing the words or ideas of another as one's own in any academic exercise, including works of art and computer-generated information/images.

POLICY FOR RESOLVING CASES OF ACADEMIC MISCONDUCT
Individual faculty members have the right and responsibility to deal directly with any cases of academic misconduct which arise in their courses. Instances of academic misconduct may be identified in one of two ways. If a faculty member believes a student has committed an act of academic misconduct--for example, by direct observation of student behavior, by comparing the contents of an assignment with that submitted by another student, or by reviewing notated sources or references--the faculty member, in consultation with the Chair of the Academic Conduct Committee, will assess the student’s alleged misconduct and the faculty member's options. If a student believes that academic misconduct has occurred, the student will notify either the faculty member or the Chair of the Academic Conduct Committee.

It is particularly important that the Chair of the Academic Conduct Committee be consulted. The Chair can provide knowledge and insight for the faculty member. Communication of instances of academic misconduct also protects the integrity of the university by providing a means of recording infractions that may be repeated by a particular student, or which may prove endemic to a particular course or department. Consultation with the Chair of the Academic Conduct Committee provides a formal record of the infraction and resolution, protecting the student, professor, and university should any questions later arise.

The student will have the opportunity to respond to an accusation of academic misconduct.

Note: Changes/Additions to this syllabus will be announced in class and posted on my website http://www.cs.umbc.edu/~cpatel2/