EE688 VLSI Testing and Verification
Spring 2019

Instructor: Irith Pomeranz
Office: MSEE234
E-mail: pomeranz@ecn.purdue.edu
Office Hours: MW 10:30-11:15am, or send e-mail to set up an appointment, indicating possible times.

Meeting Times:
Scheduled: MWF 3:30-4:20pm, EE115
Suggested: MWF 3:30-4:45pm, cancel as needed.

Prerequisites: Introductory courses on logic and VLSI design (EE270 and EE559) or Instructor’s consent

Course Website:
https://engineering.purdue.edu/~pomeranz


Course Outline: Chapters 1-9, 11 in the textbook. Additional material on related topics.
Course Objectives: Testing of a VLSI chip is done to ensure that the fabricated chip performs its function correctly. With the rapid increase in the complexity of VLSI chips, the cost of testing is increasing and becoming a dominant factor in the overall cost of designing a VLSI chip. This course covers test generation and design-for-testability techniques for VLSI circuits and systems with emphasis on current issues and techniques.
Course Grade Determination:
The following are mandatory (for a passing grade, all must be completed by the deadlines that will be specified later):
Participation in class (10%)
Approximately eight homeworks (90%)

Format of approximately six of the homeworks:
  For a given testing-related problem:
    Read papers related to the problem.
    Summarize the problem.
    Describe the solution you read about.
    Submit a short typed report.

Format of the homework before last:
  Select one of the earlier homeworks for running simulations.
  Submit a short typed report. Include your earlier homework, extended and revised as necessary.
  Add simulation results and a discussion of the results.

Format of the last homework:
  Prepare a short presentation related to your homework before last, and be prepared to present during one of the lectures in the later part of the semester.
Main sources for papers (2000 or later):

IEEE Xplore
ACM Digital Library

IEEE Transactions on Computer-Aided Design
IEEE Transactions on VLSI Systems
ACM Transactions on Design Automation

International Test Conference
VLSI Test Symposium
Design Automation Conference
European Test Conference
Design Automation and Test in Europe Conference
The Purdue Honors Pledge:
As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue.

Academic Integrity:
Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information that is submitted provides the greatest opportunity for the university to investigate the concern.

Emergency-Related Issues:
In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. Information about changes in this course will be available on the course website.
Students are asked to familiarize themselves with Campus Emergency procedures posted on the Purdue website.
Accessibility and Accommodations:
Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let the instructor know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247.

CAPS Information:
If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try WellTrack, https://purdue.welltrack.com/. Sign in and find information and tools at your fingertips, available to you at any time. If you need support and information about options and resources, please see the Office of the Dean of Students, http://www.purdue.edu/odos, for drop-in hours (M-F, 8 am- 5 pm). If you are struggling and need mental health services: Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765)494-6995 and http://www.purdue.edu/caps/ during and after hours, on weekends and holidays, or by going to the CAPS office of the second floor of the Purdue University Student Health Center (PUSH) during business hours.