Stony Brook University

Syllabus

1. Course Staff and Office Hours

Instructor:	Peter Milder	
	peter.milder@stonybrook.edu	
	Light Eng. 231	
Office Hours:	Monday	2:00pm–4:00pm
	Wednesday	2:30pm–4:30pm
	other hours by appointment	

Office hours may change. Please check Blackboard for up-to-date information.

2. Course Description

This course is designed to acquaint students with fault diagnosis of logic circuits. Both combinatorial and sequential circuits are considered. Concepts of faults and fault models are presented. Emphasis is given to test generation, test selection, fault detection, fault location, fault location within a module and fault correction.

3. Assignments and Grading

Grades will be based on projects (30%), homework assignments (30%), a final examination (30%), and attendance/participation/in-class exercises (10%).

Coursework will include substantial programming-based projects as well as written problem sets. Students must be acquainted with VLSI circuits, and must be able to program in C++.

The final examination will be given on May 14th, 11:15am–1:45pm.

4. Textbook

"VLSI Test Principles and Architectures." Laung-Terng Wang, Cheng-Wen Wu, and Xiaoqing Wen. First edition, Morgan Kaufmann. 2006.
ISBN: 978-0123705976

5. Schedule

Classes will be held in Humanities, room 3020, from 2:30pm to 3:50pm on Tuesdays and Thursdays. A final examination will be given on May 14th, from 11:15 to 1:45pm. A full schedule of assignments, topics, and readings can be found on Blackboard.

6. Piazza: Online Discussion Forum

We will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from your instructors and classmates. Rather than emailing questions, I encourage you to post your questions on Piazza. Find our class page at:
http://piazza.com/stonybrook/spring2018/ese549

7. Planned List of Topics

1. Overview of Testability and Design for Test
2. Fault Models
3. Testability
4. Logic and Fault Simulation
5. Automatic Test-Pattern Generation
6. Design for Testability (Scan-based design, Built-in self test, Boundary scan)
7. Memory testing, self-test, and self-repair
8. Test compression
9. Logic diagnosis

8. Student Learning Objectives

Students will acquire:

1. an ability to apply knowledge of mathematics, science, and engineering;
2. an ability to identify, formulate, and solve engineering problems;

9. Electronic Communication Statement

Email and especially email sent via Blackboard (http://blackboard.stonybrook.edu) is one of the ways the faculty officially communicates with you for this course. It is your responsibility to make sure that you read your email in your official University email account. For most students that is Google Apps for Education (http://www.stonybrook.edu/mycloud), but you may verify your official Electronic Post Office (EPO) address at http://it.stonybrook.edu/help/kb/checking-or-changing-your-mail-forwarding-address-in-the-epo.

If you choose to forward your official University email to another off-campus account, faculty are not responsible for any undeliverable messages to your alternative personal accounts. You can set up Google Mail forwarding using these DoIT-provided instructions found at http://it.stonybrook.edu/help/kb/setting-up-mail-forwarding-in-google-mail.

If you need technical assistance, please contact Client Support at (631) 632-9800 or supportteam@stonybrook.edu.

10. Disability

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, 128 ECC Building (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following web site: http://www.ehs.sunysb.edu and search Fire Safety and Evacuation and Disabilities.

11. Academic Integrity Statement

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html

12. Critical Incident Management Statement

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.