

ECE 538 Course Outline, Spring 2022

| Date | Topic | Reading material | Notes |
|--------------------|--|----------------------|---|
| 01/06/22 | Introduction and background | Chapter 1 | |
| 01/11/22 | Test process and ATE, Test economics and product quality | Chapters 2, 3 | |
| 01/13/22 | Fault modeling | Chapter 4 | |
| 01/18/22 | Logic simulation | Chapter 5 | Project handout |
| 01/20/22 | Fault simulation | Chapter 5 | |
| 01/25/22 | Testability measures, Combinational ATPG | Chapter 6, Chapter 7 | Project proposals due |
| 01/27/22, 02/01/22 | Combinational ATPG | Chapter 7 | Project approvals |
| 02/03/22 | Sequential circuit ATPG | Chapter 8 | Project overview presentations (02/03/22) |
| 02/08/22, 02/10/22 | DFT and scan design | Chapter 14 | |
| 02/15/22, 02/17/22 | BIST | Chapter 15 | |
| 02/22/22 | Exam I | | |
| 02/24/22 | Delay-fault testing | Chapter 12 | |
| 03/01/22 | Small-delay defects | Additional papers | |
| 03/03/22 | System-on-chip (SOC) testing: Basics | Additional papers | No class held on March 8, March 10 (Spring Break) |
| 03/15/22 | SOC test planning | Additional papers | Project progress reports due |
| 03/17/22 | Test data compression (I) | Additional papers | |
| 03/22/22 | Test data compression (II) | Additional papers | |
| 03/24/22, 03/29/22 | Machine learning in testing and design-for-test | Additional papers | |
| 03/31/22, 04/05/22 | Testing of 2.5D/3D ICs | Additional papers | |
| 04/07/22 | Hardware security | Additional papers | |
| 04/12/22 | Exam II | | |
| To be scheduled | Project presentations | | Reports due at the time of presentation |