

Department of Electrical and Computer Engineering
The University of Texas at Austin

EE382N, Spring 2014
Y.N.Patt, Instructor
TAs: Ben Lin, Stephen Pruett
Course Syllabus (Topics, Due dates)
January 20, 2016

Some of the Topics we hope to discuss:

1. Introduction and Focus:
2. ISA tradeoffs.
3. uarch tradeoffs.
4. System tradeoffs.
5. Single thread.
6. Run-time optimizations.
7. Compile-time optimizations.
8. Branch Prediction
9. Multiple threads.
10. Integer Arithmetic.
11. Floating Point Arithmetic.
12. Cache Coherency.
13. Memory consistency.
14. Measurement methodology and abuses.
15. RISC: A retrospective.
16. Case studies: Microarchitectures of existing processors.
17. Some Current specific issues in Microarchitecture
18. Multi-core, Mega-Nonsense.
19. My sense as to the critical requirements for the future.
20. One or two guest lectures from local industry
21. Last class meeting. The free for all.

Important dates:

Problem set 1a is due at the beginning of class, January 27.
Problem set 1b is due at the beginning of class, February 3.
Problem set 2 is due at the beginning of class, February 15.
Problem set 4 is due at the beginning of class, February 24.
Initial Design Reviews with each Project Team, March 3,4. (Problem set 5 due)
Written exam, (exam 1) in class, March 9.
March 14-18, no class. Spring break.
Oral exams (exam2) in POB 6.252, April 14,15.
No class, April 18,20. (Start of home stretch for the projects.)
Final project design reviews, May 5,6.
Final project report due in POB 6.252, 10pm, May 13.

Note: There will be no final exam in this course.