## Course Outline

| week | Topics | Reading/Homework |
| --- | --- | --- |
| 1/3 | **Introduction**<br>**Basics of instruction set architecture**<br>**The new 64b RISC architectures** | **let your eyes float over chapter 1**<br>**speed-read chapter 2 & pp. 300-303**<br>**read the "64b" MPR**<br>**"378" exam: due 1/5** |
| 1/10 | **P6**<br>**RISC vs. CISC**<br>**Basics of pipelining**<br>**Branch prediction** | **read Appendix D**<br><br>**speed-read sections 3.1 - 3.5**<br>**read section 4.3**<br>**optional MPR article on prediction**<br>**instruction set experiments: due 1/17** |
| 1/17 | **(holiday)**<br>**Handling interrupts in pipelines**<br>**Multicycle operations & pipelining** | <br>**read section 3.6**<br>**read section 3.7**<br>**finish with 3.8, 3.10 - 3.12** |
| 1/24 | **Static scheduling**<br>**Dynamic scheduling (out-of-order execution)**<br>**Current out-of-order implementations** | **read section 4.1**<br>**read section 4.2**<br><br>**OOO section in the Yaeger, MPR, tour**<br>**branch prediction experiments: due 1/26** |
| 1/31 | **Multiple instruction issue**<br>**VLIW machines** | **read section 4.4**<br><br>**read section 4.5, pp. 293-299, 4.6, 4.7, 4.9, 4.10**<br>**pipeline assignment: due 2/4** |
| 2/7 | **Advanced compiler & hardware techniques**<br>**Today's pipelines**<br>**midterm 2/11** | **MPR on 21164 & P6 pipelines** |
| 2/14 | **Caches** | **speed-read sections 5.1 & 5.2**<br>**read sections 5.3 - 5.5** |

| week | Topics | Reading/Homework |
|---|---|---|
| 2/21 | **(holiday)**<br>**Memory & memory management**<br>**Multiprocessors** | **speed-read sections 5.6 & 5.7**<br>**read sections 5.8 (pp. 449-453 only), 5.11 - 5.13**<br>**read 8.1,8.3, 8.4** |
| 2/28 | **Cache coherency**<br>**Synchronization** | **read 8.5, 8.9-8.11**<br>**cache hierarchy assignment due 3/1** |
| 3/6 | **Memory Consistency**<br>**Multithreaded processors**<br>**Mark Hill: Multicast Snooping**<br><br>**Wrap-up for the final (if you want)** | **read 8.6**<br>**SMT paper**<br>**MP assignment due 3/8** |
| 3/12 | **Final exam, Monday, 2:30** | |

This file will be updated multiple times each week -- keep in touch!

The schedule in **bold** is for sure.