Course Outline

week	Topics	Reading/Homework
1/4	**Introduction** **Basics of instruction set architecture** **The new 64b RISC architectures**	**let your eyes float over chapter 1** **speed-read chapter 2 & pp. 300-303** **read the "64b" MPR** **"378" exam: due 1/8**
1/11	**P6** **RISC vs. CISC** **Basics of pipelining** **Branch prediction**	**read Appendix D** **speed-read sections 3.1 - 3.5** **read section 4.3** **optional MPR article on prediction**
1/18	**(holiday)** **Handling interrupts in pipelines** **Multicycle operations & pipelining**	 **read section 3.6** **read section 3.7** **finish with 3.8, 3.10 - 3.12** **instruction set experiments: due 1/20**
1/25	**Static scheduling** **Dynamic scheduling (out-of-order execution)** **Current OOO implementations**	**read section 4.1** **read section 4.2** **OOO section in the Yaeger article & MPR** **branch prediction experiments: due 1/29**
2/1	**Multiple instruction issue** **VLIW machines** **Advanced compiler & hardware techniques** **Today's pipelines**	**read section 4.4** **read section 4.5, pp. 293-299, 4.6, 4.7, 4.9, 4.10** **MPR on 21164 & P6**
2/8	**Caches** **midterm 2/12**	**pipeline assignment: due 2/8** **speed-read sections 5.1 & 5.2** **read sections 5.3 - 5.5**
2/15	**(holiday)** **Caches**	**speed-read sections 5.6 & 5.7**

week	Topics	Reading/Homework
2/22	**Memory & memory management** **CPU/device functionality: Gun**	**read sections 5.8 (pp. 449-453 only), 5.11 - 5.13** **speed-read 6.1 & 6.2 to p. 494** **read 6.3, 6.6, 6.8** **cache hierarchy assignment due 2/26**
3/1	**Networks & I/O: Gun** **Multiprocessors** **Cache coherency**	**read 7.1 - 7.3, 7.8 - 7.13** **read 7.5, pp. 592- - 597** **read 8.1,8.3, 8.4**
3/8	**Synchronization: Gun** **Consistency models** **Multithreaded processors** **Wrapup for the final**	**read 8.4** **read 8.6** **MP assignment due 3/12**
	Final exam, Monday, 8:30am	

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

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