

# CS 488 Computer Architecture Syllabus

The syllabus below describes a recent offering of the course, but it may not be completely up to date. For current details about this course, please contact the course coordinator. Course coordinators are listed on the course listing for undergraduate courses and graduate courses.

## Text Books

### Required

John L. Hennessy and David A. Patterson, *Computer Architecture: A Quantitative Approach*, 5th ed., Morgan Kaufmann, 2011

## Week-by-Week Schedule

Week	Topics Covered	Reading	Assignments
1	Introduction; Fundamentals of Computer Design	Chapter 1	
2	Quantitative Approach to Design	Chapter 1	Homework 1
3	Instruction Set Design	Appendix A	
4	MIPS RISC architecture	Appendix A	Homework 2
5	Basic Pipelining	Appendix C	
6	Intermediate pipelining	Appendix C	Homework 3
7	Instruction level parallelism	Chapter 3	
8	Branch prediction, speculation, and superscalar	Chapter 3	Homework 4
9	Basic Memory Hierarchy Design	Appendix B	
10	Memory Performance	Appendix B	
11	Cache performance optimization	Chapter 2	Homework 5
12	Multi-Processor and Cache Coherency	Chapter 5	
13	Cache coherency protocols	Chapter 5	Homework 6
14	Summary and conclusion		