

CS451/EE441/CS551/EE541 - Advanced Computer Architecture

Course Syllabus

Fall 2008

Instructor: Bob Rinker, JEB B28, rinker@cs.uidaho.edu

Class Web Site: www.cs.uidaho.edu/~rinker/cs551

Text: *Computer Architecture - A Quantitative Approach*, 4th Ed, by Hennessey and Patterson

| Lec | Day | | Topic | Text/Ref |
|-----|-----|---------|--|----------|
| 1 | Aug | 26 T | Introduction | |
| 2 | | 28 Th | Instruction Set Principles | App J |
| 3 | Sep | 2 T | Pipelining Concepts | App A |
| 4 | | 4 Th | Pipelining Concepts - performance concepts | App A |
| 5 | | 9 T | Pipelining Concepts - performance concepts | App A |
| 6 | | 11 Th | Pipelining Concepts - performance concepts | App A |
| 7 | | 16 T | Instruction-Level parallelism - concepts | Chap 2 |
| 8 | | 18 Th | Exploiting Instruction-Level parallelism | Chap 2 |
| 9 | | 23 T | ILP - Dynamic scheduling | Chap 2 |
| 10 | | 25 Th | Limits on ILP | Chap 3 |
| 11 | | 30 T | Limits on ILP | Chap 3 |
| 12 | Oct | 2 Th | Limits on ILP | Chap 3 |
| 13 | | 7 T | Exploiting ILP with software | App G |
| | | 9 Th | **** Test 1 **** | |
| 14 | | 14 T | Multiprocessors | Chap 4 |
| 15 | | 16 Th | Multiprocessors - thread-level parallelism | Chap 4 |
| 16 | | 21 T | Multiprocessors - thread-level parallelism | Chap 4 |
| 17 | | 23 Th | Multiprocessors - thread-level parallelism | Chap 4 |
| 18 | | 28 T | Memory hierarchy - caches | App C |
| 19 | | 30 Th | Virtual Memory | App C |
| 20 | Nov | 4 T | Virtual Memory | App C |
| 21 | | 6 Th | Memory performance optimization | Chap 5 |
| 22 | | 11 T | Memory performance optimization | Chap 5 |
| 23 | | 13 Th | Memory performance optimization | Chap 5 |
| 24 | | 18 T | Storage Systems | Chap 6 |
| | | 20 Th | **** Test 2 **** | |
| | Nov | 24 - 28 | ****Thanksgiving Break - NO Classes**** | |
| 25 | Dec | 2 T | Storage Systems | Chap 6 |
| 26 | | 4 Th | Storage Systems | Chap 6 |
| 27 | | 9 T | Interconnection Networks and Clusters | App E |
| 28 | | 11 Th | Interconnection Networks and Clusters | App E |

Final: Thursday, Dec 18, 10:00 - Noon

Grading:

| | CS551/EE541 | CS451/EE441 |
|-----------------------|--------------------|--------------------|
| Two Hour Tests | 40% | 50% |
| Final Exam | 20% | 25% |
| Assignments | 15% | 25% |
| Term Project | 25% | |
| Total | 100% | 100% |

The letter grade you receive from the course will be determined as follows:

| | | | |
|--------------|----------|-------------|----------|
| 90% | - | 100% | A |
| 89.9% | - | 80% | B |
| 79.9% | - | 70% | C |
| 69.9% | - | 60% | D |
| 59.9% | - | 0% | F |

The instructor reserves the right to adjust these percentages lower is deemed necessary.