

What Did You Learn This Semester?

■ From class syllabus:

The goal of this course is to provide an introduction to the internal operation of modern computer systems. In particular, the course will cover low-level hardware details (combinational and sequential circuits), data representation (number systems, character encoding, and integer and floating point representation), basic computer system organization (CPU, I/O, memory, and disk), several instruction set architectures and assembly languages (emphasizing RISC architectures), and the internal operation of the CPU. At the end of the course, if time permits, we may briefly examine parallel systems, operating systems, etc.

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Fall 1998, Lecture 35

What Did You Learn This Semester? (cont.)

■ Main goal was to understand the basic organization of a computer system

■ Low-level hardware

- Gates
 - Boolean algebra
 - Truth tables
 - Karnaugh maps
- Data path components
 - Adders, ALU (combinational circuits)
 - Registers (sequential circuits)
 - Multiplexors, buses

■ Data representation

- Character encoding
- Error checking (parity)
- Integer & floating point representation

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Fall 1998, Lecture 35

What Did You Learn This Semester? (cont.)

■ Computer system organization

- CPU
- Memory systems
- Memory hierarchy, cache
- Disk systems
- I/O

■ Assembly language programming

- In general, plus RISC LOAD/STORE
- Operands
- Flow of control
- Bit manipulation
- Addressing Modes
- Subroutines
- Assembler directives, program translation
- SPARC (RISC), VAX (CISC)

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Fall 1998, Lecture 35

What Did You Learn This Semester? (cont.)

■ CPU

- Interrupts
- Instruction execution loop
- Datapath
- Microcoded vs. hardwired controller
- Speedup techniques
- Pipelining
- Superpipelining, superscalar
- Parallel systems

■ Operating systems

■ You're now ready for:

- CS 43201 Computer Architecture
- CS 43201 Operating Systems
- CS 43111 Structure of Compilers

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Final Exam

- The final exam will be held:
 - Wednesday, December 16
from 10:15am – 12:30pm
in the usual classroom
- The final exam is comprehensive
 - It will be approximately twice the length of the regular in-class exams
 - It comprises 25% of your course grade
- Course grades are determined as:
A = 90 – 100 D = 60 – 69.99
B = 80 – 89.99 F = <60
C = 70 – 79.99
 - I do not “curve” final course grades

Course Evaluations

- Use a #2 pencil to fill out the form
 - Write “11616” (the course call number) in the ***top left corner*** of the form
 - Fill out all the questions on the front ***and*** back of the form
 - Student monitor will return the forms to the MCS office; I won't see the results until ***after*** I hand in the course grades
- In the comment area:
 - Tell me what you *like* about the course (so that I'll keep doing it)
 - Tell me what you *do not like* about the course (so that I can consider changing it)
- Take these these evaluations very seriously — we (the faculty) certainly do!