**Fall 2003 Midterm Exam II Review**

**When / Where**
- Wednesday, 19 November 2003, 10:40-11:30 CST
- CEBA 3140 (Here)

**Conditions**
- Closed Book, Closed Notes
- Bring one sheet of notes (both sides), 216 mm × 280 mm.
- No use of communication devices.

**Format**
- One or two medium-sized problems, short answers.

**Resources**
- Solved tests and homework: [http://www.ece.lsu.edu/ee4720/prev.html](http://www.ece.lsu.edu/ee4720/prev.html)
- Study Guide: [http://www.ece.lsu.edu/ee4720/ssched.pdf](http://www.ece.lsu.edu/ee4720/ssched.pdf)

**Study Recommendations**
- Study this semester’s homework assignments. Similar problems may appear on the exam.
- Solve old problems.
- Memorizing solutions is not the same as solving.
- Following and understanding solutions is not the same as solving.
- Use the solutions for brief hints and to check your own solutions.

**Topics**

**Statically Scheduled Pipelined MIPS Implementations**
- Unpipelined Implementation
- Pipelined Implementations
  - Basic (2-cycle branch penalty).
  - Zero-cycle branch penalty.
  - Bypassed.

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**Emphasis**
- Implementation Diagrams and Pipeline Execution Diagrams
- They are a team, so study them together.

**Instruction Use**
- There will not be a programming problem per se ... ... but must know what programs do.
Dependency Definitions

Hazard Definitions

For a Given Pipelined Implementation

  Show pipeline execution diagrams.
  Show register contents at any cycle.
  Determine control hardware.
  Determine CPI.

Interrupts and Exceptions and Traps

  Difference between interrupt, exception, trap.

  Causes of exceptions, role of handler.