ECE571: Advanced Microprocessor-Based Design

Credits: 3

Instructor:

Vincent Weaver
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Office: Barrows 203
Office Hours: Drop-in (between 10am and 5pm) or e-mail to arrange an appointment

Course Website:

`http://www.eece.maine.edu/~vweaver/classes/ece571_2013s/`

Course Schedule:

Lectures: Tuesday/Thursday 12:30pm-1:45pm, Barrows 133

Course Listing:

Includes techniques for developing software and hardware for microprocessor-based systems, computer aided design using a multistation logic development system, use of components commonly found in microprocessor-based systems. Lec 2, Lab 3. (Spring.)

Content this Semester

We will investigate modern embedded systems, with a focus on ARM processors. We will investigate various metrics for evaluating such systems, including performance, power, energy, and code density.

Pre-requisites:

ECE471 or permission

Preliminary Schedule:

- Operating System / Linux Review
- ARM Architecture
- ARM Assembly Language
- Code Density
- Computer Architecture Review
- Power / Energy Concerns
- Hardware Performance Counters
- Architectural Simulators
- Floating Point / GPU

Grading:

5 homework assignments (10% each)
1 midterm, week of 26 Feb (25%)
1 final project (25%)

Academic Dishonesty

Academic dishonesty includes cheating, plagiarism and all forms of misrepresentation in academic work, and is unacceptable at The University of Maine. As stated in the University of Maine's online undergraduate "Student Handbook," plagiarism (the submission of another's work without appropriate attribution) and cheating are violations of The University of Maine Student Conduct Code. An instructor who has probable cause or reason to believe a student has cheated may act upon such evidence, and should report the case to the supervising faculty member or the Department Chair for appropriate action.

Accommodation

If you have a disability for which you may be requesting an accommodation, please contact Ann Smith, Director of Disabilities Services, 121 East Annex, 581-2319, as early as possible in the term.

Special Event

In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.