ECE 751: Embedded Computing Systems

Fall Semester 2015, TR 2:30-3:45 EH 2305

Instructor: Prof. Mikko Lipasti, mikko@engr.wisc.edu, EH3621

http://ece751.ece.wisc.edu

Course Description

This course examines the design and analysis of high-performance embedded computing systems. Topics covered include embedded applications, embedded processors and multiprocessors, embedded system design and simulation, embedded hardware design, configurable/reconfigurable embedded systems, embedded compilers and tool chains, run-time systems, application design and customization, hardware and software co-design, and low-power design. Prerequisites: ECE 552 (or equivalent).

Course Textbook

There is no required textbook. Instead, we will rely on readings from the literature, as posted on the course web site.

For reference only: Wayne Wolf, *High-Performance Embedded Computing*, First Edition, ISBN 012369485X

Lectures

It is very important that you attend lecture faithfully. Almost all of the material will be covered only in lecture, as the textbook and readings are by definition out of date. Some review lectures will only be presented online.

Project

The default course project is to do some original research in a group of four to five students. Some alternatives for original research are: you could examine a modest extension to a paper studied in class or simply revalidate the data in some paper by writing your own simulator. Projects will include a written report. Project work will be presented orally to the rest of the class at the end of the semester.

Paper Reviews and Discussion

Outside of initial introductory material, this course will be largely driven by readings from the literature. Some of the papers must be reviewed; a review schedule will be published on the course website. Every student is expected to participate in the discussions, and each student must lead discussion for one of the readings.

Final Exam

There will be a final examination held during the scheduled date and time: Dec. 18, 2015 5:05pm-7:05pm.

Grading

Paper reviewsand discussion	25%	Paper presentations	15%
Project	40%	Final Exam	20%

Communications Channels

I strongly encourage you to meet with me during my office hours, or call me or send e-mail. Introducing yourself to me, expressing concerns, offering suggestions, and seeking advice are among the welcome topics. Please monitor the web site for this course which contains course information, lecture notes, pointers to project resources, and the latest announcements.

Office Hours

Prof. Lipasti: EH3621, TBD or by appointment

Readings

The finalized list of assigned papers and review due dates will be posted to the course web site very soon.