Announcing CE/EE 675

**call #: ECE 10089-5     CE 04947-7**

Instrumentation, Signals, and Control in Transportation Applications

Fall 2005, TuTh 12:30-1:48

Undergraduate and Graduate, 3 credit hours

http://www.ceegs.ohio-state.edu/~coifman/eece675f05/

Description

An interdisciplinary course bringing together electrical engineering tools and transportation applications. Students will gain valuable experience working in teams while learning traffic flow, surveillance and control.

This course will use hundreds of inductive sensors deployed along 14 miles of I-70/71 as well as instrumented vehicles (GPS position, radar distance sensors, etc.) to gain an understanding of what happens on the freeway. After quickly learning the basics of traffic flow theory, students will discover that signals and waves propagate through the traffic stream and learn how to work with this information. The course will also address instrumentation and data management.

Course projects can focus on such items as the propagation of waves in the traffic stream, image processing, or the use of distance measuring equipment on probe vehicles.

While this course focuses on transportation applications, the problem solving techniques associated with moving people and goods can be transferred to the other areas of electrical engineering and civil engineering. This course will introduce you to new analytical tools that should prove beneficial in many situations. For example, inevitably you will have to manage large quantities of data and this course will help you learn the art of managing these monsters by choosing the right data structures in a computer program to greatly simplify the problem.

But wait, there's more

Good performance in this class could lead to employment either as a GRA or an undergraduate researcher. The material covered is the cornerstone of a growing research program here at OSU.

Instructor

Benjamin Coifman, 292-4282, Coifman.1@osu.edu

Prerequisites

ee 301, ee 351 and math 415, or graduate standing, or written permission of instructor. Experience with MATLAB is beneficial but not required since the software will be discussed in lecture.

"The whole thing reminds me of graduate school seminars, except these people are smart and funny and have something interesting to say." -- Sarah Vowell