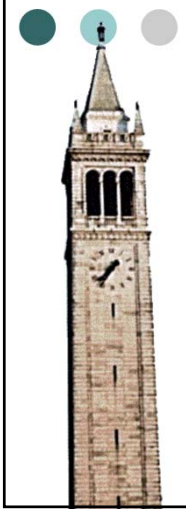
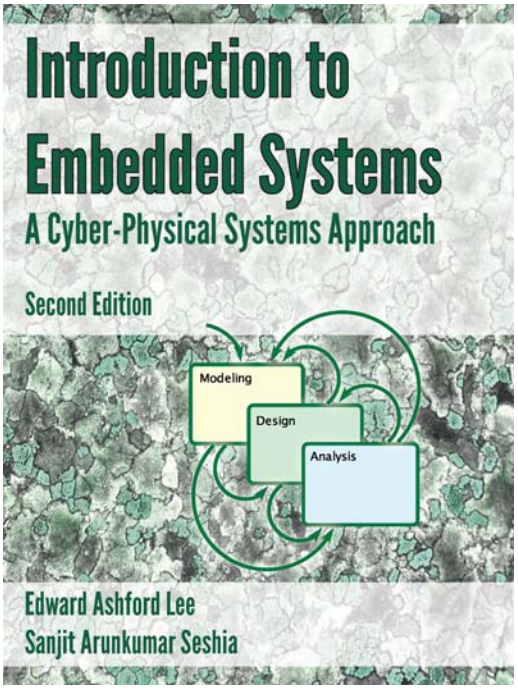


Introduction to Embedded Systems

Sanjit A. Seshia
UC Berkeley
EECS 149
Fall 2015

Lecture 0: Course Introduction and Logistics

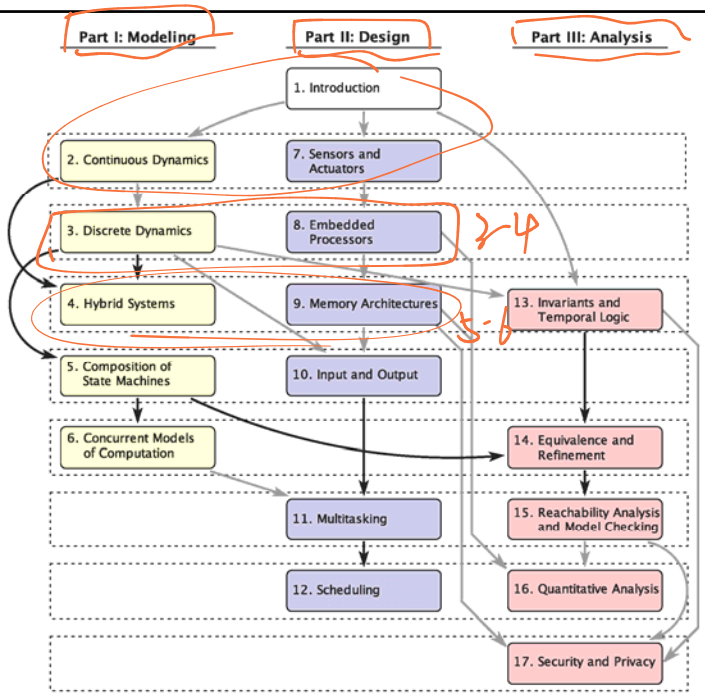


Your textbook, written for this course, strives to identify and introduce the *durable intellectual ideas* of embedded systems as a technology and as a subject of study. The emphasis is on modeling, design, and analysis of cyber-physical systems, which integrate computing, networking, and physical processes.

Use the Second Edition!

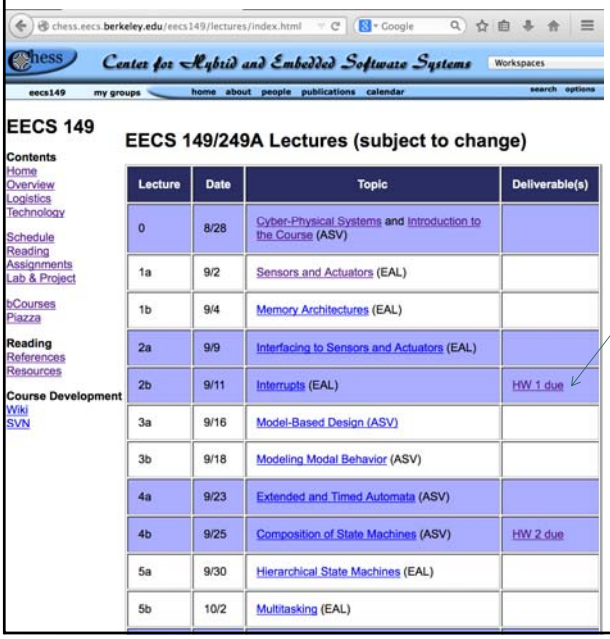
http://LeeSeshia.org/

Book Map



The three threads are designed to be read concurrently and fit nicely within a 15-week semester.

http://chess.eecs.berkeley.edu/eecs149/



The website is your key source of information.

Check it often!

First homework assignment

Labs: Hill-Climbing Robot – First 6 Weeks

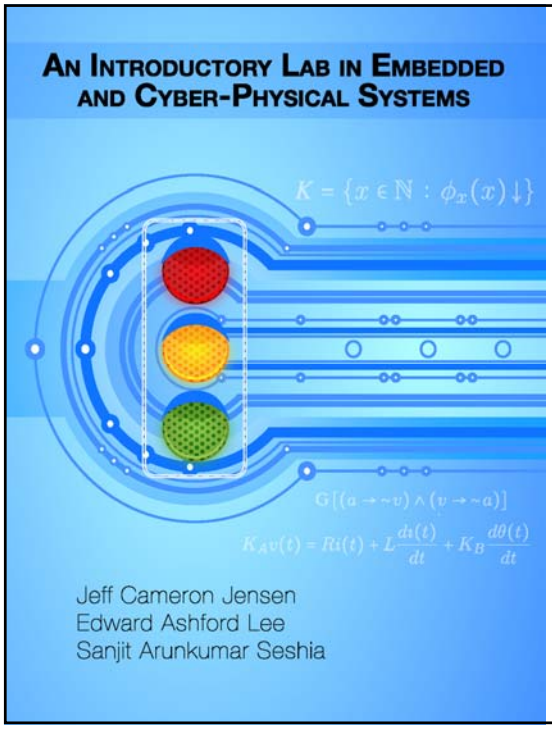
5

New this year: Cal Climber → Cal *Klimber*

iRobot Create

Kobuki

EECS 149/249A, UC Berkeley: 6



The Lab Manual is a work in progress. *Please help us make it better by offering constructive suggestions and correction.*

Download package including lab manual and documents it links to from:

http://LeeSeshia.org/lab

VERY IMPORTANT: (Re)Sign up for Lab Sections

Read the Course Announcement sent out by GSIs via bCourses

Meet me after class if you do NOT have access to bCourses for any reason

Course Project

An important component of the course

We will give you topics because of the large number of enrolled students.

Under special circumstances, we may accept projects proposed by students, but only if they are highly innovative. Be careful, many proposals we got in the past were HARD to achieve in the time allotted.

See past projects on the course website.

- Project highlights video: https://www.youtube.com/watch?v=CqK6ttxtoWc

Some Previous Projects

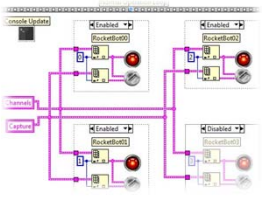
Biomimemics

Face Tracking

Autonomous Flight

Distributed Music

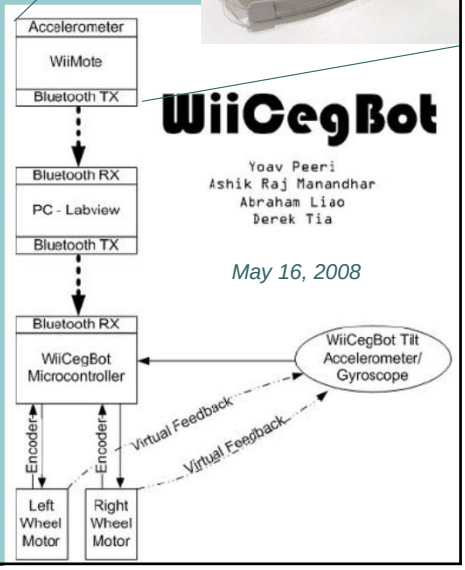
Robot Train



Robot Swarm

Example Project:

One of the five project teams in 2008 developed a balancing robot inspired by the Segway. They used a Nintendo Wiimote as a controller communicating with a PC running LabVIEW, communicating with a Lego Mindstorm NXT, which they programmed in C.



WiiCegBot

Yoav Peeri
Ashik Raj Manandhar
Abraham Liao
Derek Tia

May 16, 2008

Project for 2015...? ☺