

ChE 256 Seminar in Process Control (Model Predictive Control) Spring 2003

Tu,Th 9:30-10:45, Eng. II – Rm 3301
(Friday makeup lectures: 11:00-12:15)

Prof. Francis J. Doyle III
doyle@engineering.ucsb.edu
Office Hours: Tuesdays 11-12 and by appointment

Grading Policy

Homework Exercises (~1/week) 35%
Midterm Project Report 25% - due ~May 9
Final Project Report 40% - due ~June 10

Syllabus

<u>Date</u>	<u>Topic</u>	<u>Reading (LMG)</u>	
4/1	Introduction	1	
4/3	Linear Algebra Review	2	
4/4*	Linear Algebra Review	(Golub/Strang)	
4/11*	DMC Basics	3	
4/15	DMC Basics	3	
4/17	DMC Basics	3	
4/18*	LTI Models – Sampling Issues	4	
4/22	LTI Models – Model Reduction	4	
4/24	Stochastic Processes	4	
4/25*	Disturbance Modeling	4	
4/29	State Estimation	5	
5/1	State Estimation	5	
5/2*	Unconstrained Optimal Control	6	
5/19	Unconstrained Optimal Control	6	Reschedule to 5/16 (Fri)
5/15	Constrained Optimal Control	7	Reschedule to 5/20 (Tu)
5/16**			
5/20	Constrained Optimal Control	7	Reschedule to 5/22 (Th)
5/22	System Identification	12	Reschedule to 5/23 (Fri)
5/23**			
5/27	System Identification	12	
5/29	Extensions of MPC	Handout	
5/30*	Extensions of MPC	Handout	

* rescheduled lectures owing to known conflicts (DSSG:4/8, 4/10, DSSG:5/6, 5/8, ACC:5/3, 5/5)