SYST 611: System Methodology & Modeling

Fall 2010
Robinson A249
Tuesdays 4:30-7:10pm

Professor: Stephen G. Nash
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Office hours: Monday/Tuesday 3pm-4pm, and by appointment; via e-mail at other times

Prerequisite: SYST 500

All course materials will be posted at http://courses.gmu.edu

Textbook: *Introduction to Dynamic Systems* by David G. Luenberger (1979)
Software: *Matlab*, either the student version, or via campus computers or your employer

Objectives: The course focuses on the uses, properties, implementation, and behavior of dynamic models, i.e., models that are depend on time. Students will gain experience in converting a variety of applied problems to dynamic models, representing these models using the Simulink software system (which is part of Matlab), and analyzing the behavior of these models (based on properties such as stability and controllability).

Grading:
40% homework (assigned most weeks)
20% midterm
40% final

Tentative Course Outline:

8/31	Lecture 1	Chapter 1 of Luenberger
9/7	Lecture 2	Chapters 2 and 3
9/14	Lecture 2	Chapter 4
9/21	*No lecture*	
9/28	Lecture 4:	Chapter 5, part 1
10/5	Lecture 5:	Chapter 5, part 2
10/12	*No lecture*	[Columbus Day break]
10/19	Lecture 6:	Chapter 6
10/26	Midterm	
11/2	Lecture 7:	Chapter 6, part 2; Chapter 7
11/9	Lecture 8:	Chapter 8, part 1
11/16	Lecture 9:	Chapter 8, part 2
11/23	Lecture 10:	Chapter 9
11/30	Lecture 11:	Chapter 10
12/7	Lecture 12:	Chapter 11
12/14	*Final exam*	4:30-7:15pm

Policies

Coursework & Grading

Unless otherwise indicated, you are expected to work individually on homework assignments, projects, and exams. Late submissions are not accepted. You can submit homework directly to me (in class or at my office), through the SEOR department office, via email, via fax (703-993-1521), and at http://courses.gmu.edu.

Academic Integrity

GMU is an Honor Code university; please see the University Catalog for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? Essentially this: when you are responsible for a task, you will perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, with the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives, and traditions. When in doubt (of any kind) please ask for guidance and clarification.

GMU Email Accounts

Students must use their Mason email accounts—either the existing "MEMO" system or a new "MASONLIVE" account to receive important University information, including messages related to this class. See http://masonlive.gmu.edu for more information. Please *do not* use the email system within http://courses.gmu.edu to contact me, since it is not integrated into the main campus email system.