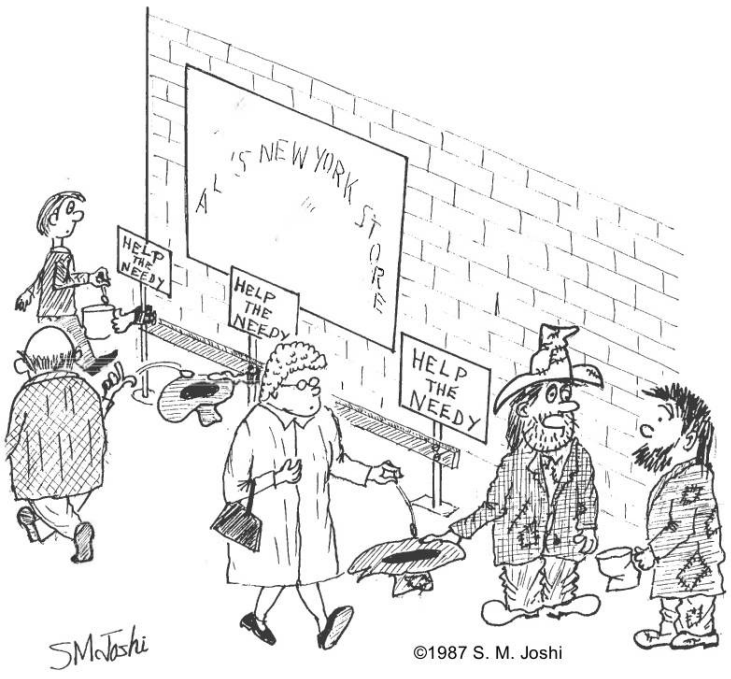
ME210 / EECS 210: Linear Multivariable Control – Course Flyer
Spring semesters



"The secret of success, my boy, is to think multivariable!"

Catalog description:
Modeling, analysis, and design of linear multi-input, multi-output control systems, including both state space and transfer matrix approach, with an emphasis on stability, controllability, stabilizability, observability and detectability are discussed. Both time-invariant and time-varying systems, and continuous-time and discrete-time systems are covered. (3 cr.)

Prerequisites: ME141 Control Engineering, or equivalent. EE102 Signal Processing & Linear Systems

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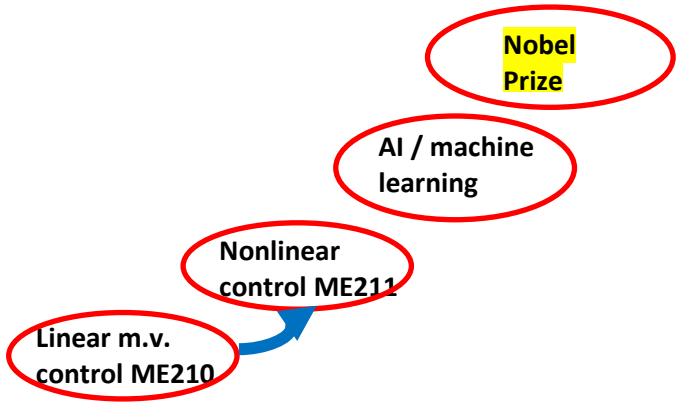
Textbook: Wilson Rugh. *Linear Systems Theory* (2nd edition). Prentice Hall; 2 edition (August 13, 1995)
http://www.amazon.com/Linear-System-Theory-Wilson-Rugh/dp/0134412052

Course Outline

1. State Models and Solution	5 Lectures
2. Internal Stability	5 Lectures
3. Controllability and Observability	5 Lectures
4. Realization	5 Lectures
5. State Feedback	4 Lectures
6. Output Feedback	4 Lectures
7. Emerging Research Topics	2 Lectures
8. Linear Algebra As needed	



Course Objectives:

1. To enable the student to perform modeling, analysis, and design of linear multi-input, multi-output control systems, including both state space and transfer matrix approach, with an emphasis on stability, controllability, stabilizability, observability and detectability.
2. To be able to handle both time-invariant and time-varying systems, and continuous-time and discrete-time systems. State feedback control and observer-based control designs.
3. To develop hands-on experience in MIMO control system designs using Matlab/Simulink.