Week 01

- Introductions (contact info) and personal background
- Course motivation, class self-introduction and expectations
- Course logistics: Book, Deposit, Computer Account, ID Swipe
- Hardware and Software
Course Motivation: Why MEM639?

Student Expectations?

Except from Course Bulletin:
Prerequisite: MEM 350 or equivalent. Covers discrete-time systems and the z-transform, sampling and data reconstruction, the pulse transfer function, discrete state equations, time-domain analysis, digital simulation, stability, frequency-domain analysis, LabVIEW programming, and data acquisition and processing. (Y, F) 2-2-3

Typical Graduate ME background:

• Mainly theoretical background in dynamics, fluids, thermo and solid mechanics.
• Some experimental, industrial and lab experience
• Little programming and hands-on electronics experience

In the Information age industry and research labs demands mechanical engineers who are skilled in electronics and “real-world” control systems design!

Multi-disciplined • On-the-fly learning • Entrepreneurship
Logistics

End Goal: Closed-Loop Control of DC motor

Essentially have 30 classroom hours to do so
Pedagogical Style: Facilitator

• Proposed class statement for quarter:

"Acquire the necessary digital control theory, electronics and programming knowledge to implement on a real-world system”

• Proposed Grading Scheme:

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