Class Information
This is an undergraduate-level course on computer-controlled dynamic systems. It builds on an introductory undergraduate course in control systems such as EE 351, and emphasizes a discrete-time viewpoint for the analysis of dynamical systems and the synthesis of control laws meeting given design specifications. To follow and appreciate the course, a descent understanding of EE351 material is required.

Instructor: Gurdal Arslan, Holmes 440, Phone: 956–3432, E-mail: gurdal@hawaii.edu
Office Hours: Anytime
Text: Digital Control of Dynamic Systems by Franklin, Powell, and Workman 3rd Edition
Webpage: www2.hawaii.edu/~gurdal/EE452.htm, Site of announcements, handouts, homeworks, etc.
Grading: Homework 15%; Mid-term I 25%; Mid-term II 25%; Final Exam 35%.
Important Dates: Mid-term I: to be announced, in class.
Mid-term II: to be announced, in class.
Final Exam: Monday, December 12, 2011, 12:00pm-02:00pm.
Policies: No credit will be given to late homeworks.
Exams must be taken at the announced times.

Main Topics

- Introduction to Computer-Controlled Dynamic Systems
- Sampling of Continuous-Time Signals
- Discrete-Time Models for Sampled Dynamic Systems
- Design by Emulation
- Direct Design by Input-Output Approaches
- Direct Design by State-Space Techniques

Additional Topics (as time permits)

- System Identification
- Quantization Effects
- Direct Design by Polynomial Approach