

First Tentative Meeting August 23, 2011

Instructor:

Hector Erives; Phone: 505-835-5932; Email: erives@ee.nmt.edu.

Text :

Digital Control Engineering: Analysis and Design
M. Sami Fadali and Antonio Visioli

Software:

Mostly MATLAB, and Altera's Quartus and NIOSII Software Build Tools.

Class Schedule:

Tr 2:00-3:15 P.M., Workman 117.

Office Hours:

Mon, Wed, Fri: 10:00-11:00 A.M., and Tue, Thurs: 9:00 - 10:00 A.M.

Prerequisites

Have completed EE 308, EE 341, EE 443 or equivalent, or consent of instructor; senior or graduate status.

Course Overview:

This course is intended for advanced engineering students interested in the application of microcomputer-based embedded control systems. The course will provide an overview of design of control methodologies using digital controllers. Projects will include the implementation of embedded real-time control solutions.

Grading:

- Homework: 20%
- Class participation: 20%
- Mid-term project: 20%
- Final presentation and project: 40%

Topics:

- Introduction to digital control
- Discrete-time systems
- Modeling of digital control systems
- Stability of digital control systems
- Analog and digital control system design
- Hardware and software of an embedded system (using Altera DE1 and/or DE0-Nano development boards).