

**EE554
Fall, 2015**

Instructor: Prof. Héctor Erives
Office: Workman 212
Phone: x5932
E-mail: erives@ee.nmt.edu

Office Hours: M-F 9:00-10:00

Course Description: This course is intended for advanced engineering students interested in the application of microcontroller- or microcomputer-based embedded control systems. Exposure to embedded computers including Single Board Computers (SBC's), and System on Chip (SoC) solutions. 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.

Pre-requisites: EE 308, 443 or equivalent or consent of instructor

Place in Curriculum: This course is open to majors and non-majors.

Course Learning Outcomes: At the completion of the course the student should be familiar with embedded platforms and their application for control purposes, as well the different design techniques which are used to design a sound control system.

Program Learning Outcomes: The ability to design and conduct experiments in control systems.

Course Requirements:

Textbook: Computer-Controlled Systems, Theory and Design, Third Edition by Karl Johan Åström and Björn Wittenmark.

Familiarity with Python, Matlab, Simulink, C, Verilog HD languages.

Late assignments are penalized 30%

Grading:

Homework: 20 %

Mid-term exam: 20%

Two mid-term projects (2x15%): 30%

A final project, report (15%), and presentation (15%): 30%

Counseling and Disability Services:

Reasonable Accommodations

New Mexico Tech is committed to protecting the rights of individuals with disabilities. Qualified individuals who require reasonable accommodations are invited to make their needs known to the Office of Counseling and Disability Services (OCDS) as soon as possible. To schedule an appointment, please call 835-6619.

Counseling Services

New Mexico Tech offers mental health and substance abuse counseling through the Office of Counseling and Disability Services. The confidential services are provided free of charge by licensed professionals. To schedule an appointment, please call 835-6619.

Academic Honesty: New Mexico Tech's Academic Honesty Policy for undergraduate students is found starting on page 60 of the NMT Undergraduate Catalog, http://www.nmt.edu/images/stories/registrar/2014-2015_UNDERGRADUATE_Catalog_FINAL.pdf

New Mexico Tech's Academic Honesty Policy for graduate students is found starting on page 59 of the NMT Graduate Catalog, http://www.nmt.edu/images/stories/registrar/2014-2015_GRADUATE_Catalog_FINAL.pdf.

You are responsible for knowing, understanding, and following this policy.

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