

## EE 572 - Project Description

Due Date: 5:00 p.m. Friday, April 30th (last day of classes)

Value: 100 points (1 test)

The ECE Department has 12 Arduino boards which make excellent digital controllers because of their analog and digital I/O capabilities. You may use another microcontroller if you have access to it or even design an ASIC.

Your EE572 Project consists of the following tasks:

1. Form a group of 2-3 people (it is helpful if at least one member of the group has some assembly language programming experience (EE583) and modeling (EE571)) **Due Wednesday, January 20**
2. Choose a system or process to control **Due Wednesday, February 3**
3. Model the continuous time system
4. Obtain a discrete model for the system
5. Decide upon a list of desirable (and achievable) control objectives including reasonable transient and steady-state error specifications where applicable.
6. Design either a modern control or a digital classical control to meet your control objectives.
7. Simulate your system and controller and modify your design as necessary.
8. Build or purchase any additional hardware (e.g., chips, sensors) needed to complete your design.
9. Implement your control on a microcontroller and tweak as needed to meet your specifications
10. Demonstrate your working design and submit a single report per group detailing the above steps and the contributions made by each member of the group **Due Friday, April 30<sup>th</sup>**.

The following Gant Chart should be adhered to to avoid end of semester time problems:

