Instructors

- Section A1: Dan Cole, dccole@bu.edu
- Section A2: Guy Thompson II, gthom2@bu.edu

Web Resources

- ME359 Blackboard site

Prerequisites

- EK156 Design and Manufacture

Course Schedule

- Lecture: Tuesdays, 4-6p
  - Section A1: PHO 206
  - Section A2: CAS 324
- Labs (all in ECL)
  - Mon, 10-11a
  - Wed, 2-3p
  - Thu, 4-5p, 5-6p

Course Text

- **Required**
  - *Machinery's Handbook* from Industrial Press
    - Any edition from 24th to current
- **Recommended**
  - *SolidProfessor* – Digital learning system for Solidworks

Learning Objectives

Technical drawing in two and three dimensions will be covered in detail using the computer aided design tool Solidworks. Geometrical dimensioning and tolerancing methods and specifications will be taught and applied to a variety of tasks and projects.

Topics will include initial aspects of machine components and design, computer numerical control (CNC), computer aided manufacturing (CAM), and relation to machining and various manufacturing processes.

Throughout the course, relations to machining and manufacturing will be made. Often, specific key machine components will be used as demonstrations of dimensioning and tolerancing specifications.

Grading

- Homeworks – 60%
- Quizzes (2) – 20%
- Final Project – 20%

Exam

- Two Quizzes in the second half of the semester

Homework

- Weight
  - All homeworks are weight equally
- Frequency
  - Weekly
- Collaboration Policy
  - Collaboration is acceptable, but the final work must be the student's own. The students must note with whom they have collaborated

Lecture by Lecture

Class No.	Date	Lecture Topic
1	9/6/2011	- Introduction - History of CAD - Parts Drawings, Part I
2	9/13/2011	- Part Drawings, Part II
3	9/20/2011	- Assembly Drawings - Bill of Materials - Methods of Joining
4	9/27/2011	- Machined Parts - Common and Uncommon Operations - Sheetmetal Parts
5	10/4/2011	- Molded Parts - Cast Parts
6	10/11/2011	- Tolerances - Tolerance Stacks - Surface Finish
7	10/18/2011	- Geometric Tolerances - Tolerance Stacks using it
8	10/25/2011	- Cams
9	11/1/2011	- Shafts - Bearings - Fits - Retaining Rings - Springs - O-rings
10	11/8/2011	- Gears - Splines - Keys - Pins - Ball Screws
11	11/15/2011	- Chains - Sprockets - Belts
12	11/22/2011	- FEA
13	11/29/2011	- Design for Manufacturability & Assembly - Other Topics
14	12/6/2011	Other Topics