Instructor
- Peter A. Zink | pzink@bu.edu | (617)358-1631 | Sections A1 & B2
  - Office Hours: E-mail for appointment, check http://bit.ly/1GTfzfj for availability
  - Office Location: 730 Commonwealth Ave, EMA 202D (above CVS)

Web Resources
- ME359 Blackboard site (learn.bu.edu)
- Piazza Website (for ME359 discussion & questions), http://piazza.com/bu/other/buengme359/home

Course Schedule
- Lecture: EMB 125 (ECL); A1: Thursday, 6:30-8:15, B1: Thursday, 3:30-5:15
- Labs: EMB 125 (ECL); TBD (students may attend any lab section)
- Graders/Lab TAs: Soniya Patel & Bella Olivieres

Course Tools (links to recommended tools available on Blackboard)
- Dial Calipers (Anytime Tools Dial Caliper Model AT203185 recommended)
- A small tool kit containing at least: needle nose pliers, Phillips and flat screwdrivers, small and large, wire cutters; (Allied Tools Model 49032 strongly recommended)
- A Black & Decker handheld screwdriver (Model LI2000, no exceptions)
- Free Account at PTC: https://support.ptc.com/ > Create a New Academic Account

Course Texts
- Recommended: Machinery’s Handbook from Industrial Press: Any edition from 24th to current

Learning Objectives
- Technical drawing in two and three dimensions will be covered in detail using CAD
- Drawing dimensioning and tolerancing methods and specifications will be applied to a variety of tasks
- Understanding machine components, design and analysis, including gears, bearing, cams and the relationship of design to various manufacturing processes

Class Structure
- Each day approximately half of the class time is dedicated to an overview of new topics; the other half of the class time consists of related self-paced student exercises which provide an opportunity for students to practice new techniques in the presence of the instructor and teaching assistants

Grading
- Homework – 70% * Lowest homework score will be dropped at the end of the semester
- Exams (midterm and final) – 20%
- Project – 10%; Disassemble a Black & Decker LI2000 Screwdriver; then model, draw, and analyze the gearbox inside
- It is your responsibility to check with the instructor or GTF to make sure that all grades have been recorded correctly on Blackboard. After two weeks from the time the assignment is returned there will be no change in grades.

Homework
- All homework assignments are weighted equally
- Collaboration Policy: Collaboration is acceptable, but submitted work must be the student’s own.
- Students should note with whom they have collaborated

Academic Conduct
- Any violation of this code will be reported to the COE Academic Conduct Committee.
Lecture Schedule

- This schedule is a general outline for the course; the exact dates and topics may vary by section.
- See Blackboard > Information for your section for specific dates and details.

<table>
<thead>
<tr>
<th>Session</th>
<th>Topics</th>
<th>Lab/Exercise Topics</th>
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| 1       | - Introduction  
          - Short History of CAD  
          - Part Drawings I | - Basic CAD  
          - Drawings Part I |
| 2       | - Part Drawings II | - Basic CAD II  
          - Drawings II |
| 3       | - Part Drawings III, Holes, Threads and Views | - Basic CAD III  
          - Drawings III |
| 4       | - Part Drawings IV, Revisions | - Basic CAD IV  
          - Drawings IV |
| 5       | - Tolerances  
          - Tolerance Stacks | - Tolerance Analysis  
          - Applying Tolerances to Models and Drawings |
| 6       | - Surface Finish  
          - Geometric Dimensioning and Tolerancing (GD&T) | - Applying Surface Finish to Drawings  
          - Applying GD&T to Drawings |
| 7       | - Machine Elements I: Cams, Shafts, Bearings, Retaining Rings, Springs, O-Rings | - Bearing Analysis |
|         | **Exam #1 Through Session #6** | |
| 8       | - Machine Elements II: Gears, Splines, Keys, Chains, Belts | - Gears & Gear Ratios  
          - Screwdriver Project Intro & Breakdown |
| 9       | - Assembly Drawings  
          - Bill of Materials  
          - Methods of Joining | - Assembly Models and Drawings  
          - BOMs  
          - Downloading models from online sites |
| 10      | - Weldment Drawings, Inseparable Assemblies | - Weldment Drawings  
          - Screwdriver Deconstruction Session  
          (bring your driver & Tools) |
| 11      | - Methods of Manufacture | - Features for molded/cast parts |
| 12      | - Finite Element Analysis (FEA) | - Simulation |
| 13      | - Last day of class: Exam Review, Project Recap/Notes & Course assessments | - Project Reports Due |
|         | **Final Exam** | **Cumulative, during Finals Week** |