



School of Engineering
Brown University

ENGN0030: Introduction to Engineering and Statics

Website: <http://www.engin.brown.edu/courses/en3>

Course calendar, announcements, notes, homework, labs, office hours....

Course Objectives

ENGN0030 is intended to give a broad introduction to the engineering discipline, as well as to provide a foundation for further study in engineering. Students are exposed to current engineering research issues, with emphasis on those covered within the school of engineering. Topics to be discussed include: (i) an introduction to the engineering profession; (ii) estimation and quantitative problem solving; (iii) optimization; (iv) engineering design; (v) vectors (self-study); and (vi) statics. The course includes 2 major calculation-based design projects.

Outline

1. Introduction
2. Engineering Problem Solving I: Measurement and Estimation
3. Engineering Problem Solving II: Optimization
4. Engineering Problem Solving III: Design
5. DESIGN PROJECT I: Optimal beverage container
6. Vectors (Self-Study Tutorial, supplemented by optional evening classes)
7. Statics: forces, equilibrium, material failure, energy methods for the design and analysis of complex structures.
8. DESIGN PROJECT II: Design, construction and testing a multi-purpose tabletop exercise machine

A more detailed syllabus, including notes and old homework, can be found on the course website
<http://www.engin.brown.edu/courses/en3>

Lead Professor: Janet Blume, BH741 Janet_Blume@brown.edu

Advanced Students: Beginning in October, a set of lectures and sections for advanced students will be offered. These are intended for students who have an extensive background in mechanics. These students will have their own lectures, homework assignments and examination. The material will be covered at an accelerated pace, with additional topics. Those who elect to take this section must pass a placement test. Students in the advanced group will do the same final design project as those in the regular course, and may work in groups with these students. More details will be posted on the web-site.

Grading: Mandatory S/NC. To pass the course, you must:

1. Achieve a score of 60% or greater on your average homework score. We will not count your lowest homework score in the average.
2. Achieve a score of 45% or greater on both examinations
3. Receive a grade of 60% or greater on both design projects
4. Attend 75% of all lectures.

Make up exams and homework will be offered to those who fall short in one of the above categories. Grades of S with distinction (equivalent to an A) will be given to the top performers in the class. Any student can request a course performance report for a permanent record of your grades.