

**Instructor:** Huston, Shaeffer

**Prerequisites:** PHY 2053 College Physics I (“C” or better)  
MAC 2311 Calculus 1 (“C” or better)  
ARC 2470 Introduction to the Technology of Architecture (“C” or better)

**Course Overview:**

This course covers structural concepts and principles of structural behavior. Included are the elements of statics and mechanics of material: concurrent and noncurrent force systems, moments and couples, equilibrium, centroids and moment of inertia, stress and strain, shear and moment diagrams, elastic column buckling, flexural and shearing stresses in beams, and truss analysis.

**Learning Objectives:**

1. To be able to:
  - a. Solve elementary statics problems,
  - b. Determine section properties,
  - c. Sketch shear and moment diagrams,
  - d. Select beams on a preliminary basis, and
  - e. Compute basic stresses and strain.
2. To be able to discern the appropriateness of certain structural systems for certain architectural functions.
3. To be able to “order” a problem and perform an analysis of the variables.

**Course Requirements:**

Reading, homework assignments, quizzes, tests, and projects. Performance is evaluated as follows:

Four or five tests	60%
Homework, class participation, pop quizzes, papers, and projects	15%
Final exam	25%

The numerical total is influenced by improvement, effort, and attitude.