ENGR 3131: Strength of Materials

3 Credit Hours

Prerequisite: (ENGR 2214) and MATH 2202

The study and mathematical modeling of the mechanical behavior of materials under load. Emphasis will be on the elastic conditions of equilibrium, compatibility and material behavior. Includes study of stress and strain in columns, connectors, beams, eccentrically-loaded members, as well as introduction to statically indeterminate members.

ENGR 3132: Strength of Materials Lab

1 Credit Hours

Prerequisite: ENGR 3131 may be taken concurrently

The study and performance of laboratory testing and analysis techniques used in the determination of the mechanical behavior of materials under load.

ENGR 3250: Project Management for Engineers

3 Credit Hours

Prerequisite: (ISYE 2600 or STAT 2332) and Engineering Standing

This course is a comprehensive study of project concepts, such as project definitions, systems and methodologies, project cycles, roles and responsibilities of leaders and members, and procedures used in industrial and production environments. Topics include such areas as scheduling, controlling projects, time-cost trade-off, resource allocation and project cost control.

ENGR 3305: Data Collection and Analysis in Engineering

3 Credit Hours

Prerequisite: MATH 2202 and Engineering Standing Requirements

This course introduces probability theory and statistical analysis techniques for engineering applications. Major topics include probability and sampling distributions, conditional probability and Bayes' theorem, estimation of parameters, hypothesis test and statistical inference, and linear regression techniques. Students will apply basic statistical techniques to analyze various types of real world engineering data. Emphasis will be given to standard engineering practices. Computer software (e.g., spreadsheet programs) will be used.