EGR 112
Foundations of Engineering II

Course Description

This course is an introduction to logic processing, accounting, and conservation principles in engineering.

Course Corequisite

Foundations of Engineering II Laboratory (EGR 112L)

Specific Course Requirements

Textbook Requirements

See current semester textbook list at http://www.physics.sfasu.edu/books.pdf

Course Objectives

This course is an introduction to logic processing, accounting, and conservation principles in engineering. The topics will include thermodynamics, rate processes, SI system of units, unit conversion, statics, dynamics, and conservation of mass, linear momentum, angular momentum, energy, entropy, and money. The course will stress the development of skills in problem solving, design, analysis, estimation and teamwork. Software used: CAD, Windows, Office, and the Internet. (3 semester hours; 2 hours lecture and 2 hours lab per week) This course is part of an articulation agreement with Texas A&M University.

Student Learning Outcomes

- To learn the fundamentals of thermodynamics
- To construct two simple heat engines
- To learn how to apply basic conservations principles when solving engineering problems
- To learn the fundamentals of engineering statics and dynamics

Course Content:

- Thermodynamics
- Rate Processes
- SI System of Units
- Unit Conversion
- Statics and Dynamics
- Accounting
- Accounting for Mass
- Linear Momentum
- Angular Momentum
- Accounting for Energy
- Accounting for Entropy

Course Assessment

The course assessment may use any or all of the following evaluation tools: exam scores, classroom participation, homework average, quizzes, and team projects. The lecture and laboratory grades are combined and the same grade will be recorded for both lecture and laboratory.