1. ME 5241, Computer-Aided Engineering

2. 4 credits, 4 contact hours.


4. Textbook: Not applicable

5. Specific course information:
   b. Prerequisites: ME 3222, CSCI 1113
   c. Elective for ME students.

6. Course outcomes (related ABET student outcomes indicated in square brackets):
   a. A knowledge of commercial computer-based engineering tools for geometric modeling and structural finite element analysis. [7]
   b. An ability to perform mechanical design optimizations and implement graphics interfaces using software tools. [1,2]
   c. A basic knowledge of structural finite elements and an awareness of the strengths and pitfalls of the technique. [1,4]
   d. An ability to create and document mechanical product designs using CAD tools. [2]
   e. An ability to document technical work in project reports. [3]

7. Course topics:
   a. Computer-aided design and solid modeling
   b. Structured programming
   c. Numerical optimization
   d. Graphics programming
   e. Applied finite elements for structural analysis