Course Title: Introduction to Design
Prefix and Course Number: CAD 133

Course Learning Outcomes:
By the end of this course, a student should be able to:

- Demonstrate the techniques used in the Design Process to develop new products, test and modify existing products and machine components, and prove the function and application of the design
- Generate production type working drawings
- Describe the design factors for mechanical parts that will determine proper dimensioning and notes on drawings
- Apply math and principles of physics to develop, prove, and modify a design

Course Outline

I. The Design Process in Application
   A. Develop a Design Plan to be Implemented and Tracked

II. Design Techniques
    A. Application of Engineering Graphics (2D & 3D)
    B. Measurement and Statistics
    C. Create and Test a Prototype Model

III. Design Calculations
     A. Geometry
     B. Math and Documentation
     C. Physical Properties (Physics) Structure

IV. Design Functions
    A. Design Teams
    B. Design Documentation
    C. Reverse Engineering Techniques
    D. Design Challenges