COURSE NAME: **Introduction to Engineering**

COURSE NUMBER: EGR*111

CREDITS: 3 CREDITS

CATALOG DESCRIPTION: Students will be introduced to the fields of engineering through design and graphics and comprehensive engineering projects. Topics include sketching, charts, graphs, forces, energy, electrical circuits, mechanisms, materials testing, manufacturing technologies and fundamentals of engineering economics.

PREREQUISITES: MAT 104 or MAT 137 or placement into MAT 167 or higher

General Education Competencies Satisfied:

HCC General Education Requirement Designated Competency Attribute Code(s):

None

Additional CSCU General Education Requirements for CSCU Transfer Degree Programs:
None.

Embedded Competency(ies):
None.

Discipline-Specific Attribute Code(s):
None

Course objectives:
General Education Goals and Outcomes:
None

Course Specific Objectives:
- Understand different types of engineering fields and their functions
- Demonstrate data acquisition and documentation skills
- Understand and implement the design process
- Explain engineering systems through mechanics, thermodynamics, fluid mechanics and heat transfer
- Determine engineering reliability
- Demonstrate basic problem solving techniques to engineering systems

COURSE CONTENT:

     A. Engineering Professions
     B. Dimensions and Units
     C. Project Management
         i. Suppliers & Customers
         ii. Cost, Schedule, Risk
     D. Analysis & Design

          i.   Requirements
         ii.   Design Tools
       iii.   Testing Procedures
E. Manufacturing
          i.   Blueprint Reading
         ii.   Operations & Processes
F. Engineering & Business Ethics