DESGN 328

Title: Engineering Modeling and Design

Units: 3.00

Prerequisite: DESGN 100 (Introduction to Computer Aided Drafting and Design (CADD)) with a grade of "C" or better

Advisory: DESGN 320 (Three Dimensional Graphics and Design); ENGWR 102 or 103, and ENGRD 116 with a grade of "C" or better; OR ESLR 320 and ESLW 320 with a grade of "C" or better.

Hours: 36 hours lecture, 72 hours laboratory

Description: This course covers the concepts and applications of three dimensional graphic design using various visualization, modeling, and Building Information Modeling (BIM) programs, such as AutoCAD, SketchUp, and Revit MEP. Topics include the procedures and techniques for producing surface models, solid models, and their associated technical documentation/presentation components as well as their application to civil engineering, mechanical engineering and green technology. This course may be taken two times for credit using different software versions. This course was formerly DESGN 308.

Learning Outcomes and Objectives

Upon completion of this course, the student will be able to:

• create technically correct surface and solid models that are common to and useful for visualization and problem solving in civil and mechanical engineering disciplines using various design software programs such as AutoCAD, SketchUp, and Revit MEP
• create technical documentation/presentations of models from civil and mechanical engineering disciplines in both technically correct and visually pleasing solid, orthographic, and section view formats
• produce project design documentation using modeling skills in project-based assignments
• coordinate civil and mechanical engineering models into the design development process