1. *Course number and name*

**ENGR 292: Introduction to SOLIDWORKS**

1. *Credits and contact hours*

1 credit hour

1. *Instructor’s or course coordinator’s name*

Instructor: Amir Pourmousa

Course coordinator:

1. *Textbook, title, author, and year*

Engineering Design with SOLIDWORKS 2017 and Video Instruction: A Step-by-Step Project Based Approach Utilizing 3D Solid Modeling, by David Planchard CSWP, SDC Publications, 848 Pages ISBN: 978-1-63057-065-1

1. *other supplemental materials*

SolidProfessor trainings: https://www.solidprofessor.com/

1. *Specific course information*
   1. *brief description of the content of the course (catalog description)*

Basic introduction to SOLIDWORKS, basic engineering drawings and design, development of visualization skills, orthographic projections, mechanical dimensioning and tolerancing practices, 3D CAD and introduction to engineering design and 3D printing.

* 1. *prerequisites or co-requisites*

Sophomore standing or later; Math 226 or equivalent with a grade C or better

* 1. *indicate whether a required, elective, or selected elective course in the program*

Elective for Mechanical Engineering and Electrical Engineering

1. *Specific goals for the course*
   1. *Specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.*
      * Apply rules of orthographic projection to create multi-view drawings.
      * Create pictorials from orthographic views.
      * Use CAD software to create 3D models and assemblies
      * Create 2D engineering drawings, including component and assembly drawings
      * Create auxiliary and section views of an object following correct conventions.
      * Apply standards of dimensioning and tolerancing to engineering drawings.
      * Apply the engineering design process to a design project.
   2. *Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.*

Course addresses ABET Student Outcome(s): 1,2,6

1. *Brief list of topics to be covered*

* Overview of SOLIDWORKS and the user interface
* Fundamentals of part modeling
* Fundamentals of assembly modeling
* Fundamentals of drawing
* Extrude and revolve features
* Swept, lofted and additional features
* Top-down Assembly Modeling and Sheet Metal