1. Course number and name
   ENGR 290: Introduction to SolidWorks

2. Credits and contact hours
   1 credit hours; One 90-minute lecture sessions/week for 8 weeks.

3. Instructor’s or course coordinator’s name
   Instructor: Susan Bowley, Lecturer in Mechanical Engineering
   Course coordinator: Kwok Siong Teh, Professor of Mechanical Engineering

4. Text book, title, author, and year

   a. other supplemental materials
      (none)

5. Specific course information
   a. brief description of the content of the course (catalog description)
      This course extends the concepts learned in other graphics courses to engineering drawings and design. Topics include the development of visualization skills, orthographic projections, mechanical dimensioning and tolerancing practices, 3-D CAD and an introduction to engineering design including a group project. The use of 3-D CAD software and application to 3-D printing is an integral part of this course.

   b. prerequisites or co-requisites
      Engineering students in sophomore year or later.

   c. indicate whether a required, elective, or selected elective course in the program
      Lower Division Engineering Elective for Mechanical Engineering

6. Specific goals for the course
   a. specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.
      - Students will demonstrate clear and effective communication of engineering/scientific data in a graphical form.
      - Students will design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability

   b. 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): a, c, e, g, i, k.
7. *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
- Intelligent Modeling Techniques
- Additive Manufacturing – 3D Printing
- Preparation for the CSWA Certification Exam