COMMON COURSE OUTLINE: Course discipline/number/title: CAD 1050: Introduction to SolidWorks for Manufacturing

A. CATALOG DESCRIPTION
   1. Credits: 3
   2. Hours/Week: 5
   3. Prerequisites (Course discipline/number): Instructor permission required for non-CAD majors
   4. Co-requisites (Course discipline/number): CAD 1050
   5. MnTC Goals (if any): NA

   This course offers students a basic understanding of 3D parametric solid modeling using SolidWorks. It covers basic construction of 3D solid modeling parts, assemblies, and importing/exporting files. Students lean by example in a state of the art CAD lab using the latest version of SolidWorks.

B. DATE LAST REVISED (Month, year): April, 2011

C. OUTLINE OF MAJOR CONTENT AREAS:
   1. Preparing for Construction of 3D solid models
      a) Design Intent
      b) Sketch Profiles
   2. Construction of 3D solid models
      a) Sketch Basics
      b) Sketch Entities
      c) Constraining Sketch Geometry
      d) Sketch Dimensions
      e) Editing Sketch Entities and Dimensions
   3. Creating Parts-Solid Modeling
      a) Part Planning
      b) Types of Features: Solid, Pattern, Thin
      c) References Geometry/Editing
   4. Creating Assemblies
      a) Assembly File Management/Methodology
      b) Creating/Modifying Assemblies
      c) Advanced Assembly Features
   5. Import and export files

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
   1. Understand basic drawing concepts and basic assembly practices of SolidWorks
   2. Create fully defined sketches.
   3. Understand sketch geometry.
   4. Edit features (Parts).
   5. Create basic 3D assemblies.
   6. Import and Export files.

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:
   1. Checking electronic drawing files
   2. Skill proficiency
   3. Quizzes
   4. Written tests
G. RCTC CORE OUTCOME(S) ADDRESSED:

- Communication
- Critical Thinking
- Global Awareness/Diversity
- Civic Responsibility
- Personal/Professional Accountability
- Aesthetic Response

H. SPECIAL INFORMATION (if any):