COMMON COURSE OUTLINE: Course discipline/number/title: CAD 1100: Introduction to Solid Works

A. CATALOG DESCRIPTION
   1. Credits: 2
   2. Hours/Week: 1 hour lecture and 1 hour lab
   3. Prerequisites (Course discipline/number): CAD 1230
   4. Co-requisites (Course discipline/number): None
   5. MnTC Goals (if any): NA

   This course offers students the basic understanding of 3D parametric solid modeling using SolidWorks. The class is appropriate for design and manufacturing professionals as well as individuals in other disciplines who require a basic introduction to SolidWorks. Students attending this course should have experience in mechanical design. Students will become familiar with basic terminology and concepts used in parametric solid modeling. Upon completion of the class, each student will be able to create a basic 3D solid model utilizing feature-based creation and editing tools, bottom-up assembly modeling techniques, and 2D drawings that are fully dimensioned and parametric. All CAD courses will be taught in a state-of-the-art facility featuring the latest release of SolidWorks.

   RECOMMENDED ENTRY SKILLS/KNOWLEDGE: Students attending this course should have experience in mechanical design and the Windows95/98/ME/2K/NT operating system.

B. DATE LAST REVISED (Month, year): April, 2003

C. OUTLINE OF MAJOR CONTENT AREAS:
   1. Introduction
   2. Basic Part Modeling
   3. Preparing for Construction of 3D solid models
      a) Design Intent
      b) Sketch Profiles
   4. Construction of 3D solid models
      a) Sketch Basics
      b) Sketch Entities
      c) Sketch Dimensions
      d) Editing Sketch Entities and Dimensions
   5. Creating Parts-Solid Modeling
      a) Part Planning
      b) Types of Features: Solid, Pattern, Thin
      c) Reference Geometry/Editing

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
   1. Draw defined sketches.
   2. Understand sketch geometry.
   3. Create, modify solid features (Parts).
   4. Use geometric relationships correctly.

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:
   1. Checking electronic drawing files
   2. Skill proficiency quizzes
   3. Written Tests

G. SPECIAL INFORMATION (if any):
   Tuition differential