COMMON COURSE OUTLINE:  Course discipline/number/title:  CAD 2339: Three Dimensional CAD

A.  CATALOG DESCRIPTION
   1. Credits: 3
   2. Hours/Week: 1 hour lecture, 4 hours lab
   3. Prerequisites (Course discipline/number): CAD 1230, CAD 1234, and CAD 1235.
   4. Co-requisites (Course discipline/number): None
   5. MnTC Goals (if any): NA

This course offers students the understanding of 3D parametric solid modeling using SolidWorks. It also addresses the concepts of parametric design, design intent, and the necessary commands to carry out these functions. Items covered will be construction of 3D solid modeling parts, assemblies, and creating 2D automated drawings. Learning be example: the students will design real world products wit SolidWorks. Other application programs will be covered if time permits.

B. DATE LAST REVISED (Month, year): June, 1997

C. OUTLINE OF MAJOR CONTENT AREAS:
   1) Understanding 3D
   2) Preparing for Construction of 3D models
      a) 3D Models
      b) 3D Space
   3) Construction of 3D surface models
      a) 2 1/2 D extrusion
      b) Wire frame
      c) Creation of a shell
      d) Elaborate surfaces
   4) Solid Modeling
   5) Enhancing the use of 3D
      a) 3 Dimensional libraries
      b) 3D parametric design
   6) Presentation
      a) Plotting
      b) Rendering
   7) Application programs
      a) Auto vision
      b) Auto CAD Designer
      c) 3D Studio

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
   1. Draw 3D models.
   2. Understand paper space and model space.
   3. Create 2 1/2 D extrusion.
   4. Create wire frame.
   5. Use 3D libraries.
   6. Plot 3D models.
   7. Create mechanical renderings.

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:
   Drawings

G. SPECIAL INFORMATION (if any):
   Tuition differential