**COURSE OUTLINE**
Loc Nguyen, 2012

**DEPARTMENT:** Professional Technical Education  
**CURRICULUM:** CAD / DESIGN Technology  
**COURSE TITLE:** CAD 3-D Parametric Solid Design II  
**COURSE NUMBER:** TDR 231  
**TYPE OF COURSE:** Technical Preparatory  
**COURSE LENGTH:** 1 quarter  
**CREDIT HOURS:** 4  
**LECTURE HOURS:** 22  
**LAB HOURS:** 44  
**CLASS SIZE:** 20  
**PREREQUISITES:** TDR 230 CAD 3-D Parametric Solid Design I

**COURSE DESCRIPTION:**
This course continues the study of TDR 230 three dimensional CAD parametric, solid-modeling design program. Students will use 3-D SolidWorks to build parametric projects models of parts and assemblies, and make drawings of those parts and assemblies. Two projects will be assigned by instructor; the third project will be selected by each student. All students are required to present their final project model on the last class day.

**STUDENT LEARNING OUTCOMES ADDRESSED:**

1. Communication - Read and translate technical data relative to geometric spatial relationships into a graphical form easily understood by others with similar technical understanding.

2. Computation - Use basic mathematical operations as required defining geometrical spatial relationships.

3. Human Relations - Use social interactive skills to enhance learning through informal tutoring activities.

4. Critical Thinking and Problem Solving - Organize and evaluate technical data, as well as select and apply appropriate spatial relationship principles to determine problem solution.
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STUDENT LEARNING OUTCOMES ADDRESSED: (cont.)

5. Technology - Select and use appropriate technological tools to create technical graphics.

6. Personal Responsibility - Take pride in own work

7. Information Literacy - Access & use information from variety of resources / data

GENERAL COURSE OBJECTIVES:
Upon completion of the course the student will be able to:

1. Understand the basic functionality of 3-D CAD parametric solid-modeling design software.
2. Create and modify the parts and assembly using the Revolve, Sweep, and Loft Features.
3. Understand how parts and assemblies are related.
4. Understand basic drawing concepts. Create detailed drawings of parts and assemblies.

TOPICAL OUTLINE:   APPROX. HOURS

I. Course Overview                     1
II. Advanced Modeling Topics: Planes Creation    11
III. Advanced Modeling Topics: Revolve, Sweep and Loft  18
IV. Surfaces Modeling                     12
V. Design projects                         24

Total 66

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DATE: Jan 10, 2010