COMMON COURSE OUTLINE: Course discipline/number/title: CAD 1039: 3D CAD

A. CATALOG DESCRIPTION
1. Credits: 4 (1 lecture/3lab)
2. Hours/Week: 1 hour lecture, 6 hours lab
3. Prerequisites (Course discipline/number): RCTC CAD major or instructor’s permission
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 by example: students will design real world products with SolidWorks. This course will be taught in a state-of-the-art facility featuring the latest release of SolidWorks.

B. DATE LAST REVISED (Month, year): April, 2013

C. OUTLINE OF MAJOR CONTENT AREAS:
1. Parametric modeling concepts
2. Sketching
3. Basic Part Modeling
4. Sketch planes
5. Choosing the best profile
6. Revolving features
7. Patternning
8. Shelling and Rib creation
9. Editing Parts
10. Configurations
11. Design Tables and Equation’s
12. Top Down and Bottom Up Assembly Modeling
13. Creating Detail Drawings

D. LEARNING OUTCOMES (GENERAL): The student will be able to:
1. Draw defined sketches.
2. Understand sketch geometry.
3. Create and modify solid features (parts)
4. Create 3D assemblies.
5. Use geometric relationships correctly.
6. Plot 3D models.
7. Create tables and equations.
8. Create advanced modeling shapes.
10. Create detail drawing.

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. RCTC CORE OUTCOME(S) ADDRESSED:
☐ Communication
☐ Critical Thinking
☐ Global Awareness/Diversity
☐ Civic Responsibility
☐ Personal/Professional Accountability
☐ Aesthetic Response

H. SPECIAL INFORMATION (if any): Tuition Differential