ROCHESTER COMMUNITY AND TECHNICAL COLLEGE

COMMON COURSE OUTLINE

Course discipline/number/title: CAD 1040: Technical Illustration for Industry

A. CATALOG DESCRIPTION
1. Credits: 2
2. Hours/Week: 1 lecture, 2 lab
3. Prerequisites (Course discipline/number): CAD 1039
4. Other requirements: Students must receive a grade of C or better in all CAD courses.
5. MnTC Goals (if any): NA

B. COURSE DESCRIPTION: Students attending this course should have experience using SolidWorks. Students will create and generate pictorial drawings, photorealistic renderings, motion analysis of 3D models, animations, and e-drawings using various SolidWorks add-on products such as: Composer, PhotoView 360, and Motion Manager. Students will create manuals and instructions for consumer and industry products. Each student will create an electronic portfolio of their projects for use in interviews. This course will be taught using the latest release of SolidWorks. Students must receive a grade of C or better in all CAD courses.

C. DATE LAST REVISED (Month, year): May, 2022

D. OUTLINE OF MAJOR CONTENT AREAS:
1. Pictorial views and Pictorial applications
2. Renderings and Photorealistic and renderings
3. Axonometric views
4. Edrawings and exchanges
5. Repair parts diagrams
6. Assembly instruction sheets and manuals
7. Industry manuals
8. SolidWorks office suite
9. CAD Data integration
10. Assembly animation, fly/walk throughs
11. Electronic portfolio

E. LEARNING OUTCOMES (GENERAL): The student will be able to:
1. Export CAD data to other programs for use as an illustration.
2. Describe and create a variety of technical illustration applications.
3. Explain the pros and cons of the different types of views.
4. Create documents using imbedded illustrations.
5. Use Composer to generate high quality illustrations.
6. Create photo realistic images for manuals.
7. Generate interactive animations.
8. Use SolidWorks Motion manager to show how products move within assemblies.
9. Create and e-mail eDrawings.
10. Use on-line collaboration tools.
11. Create an electronic resume.
12. Create an electronic portfolio of drawings for interviewing.

F. LEARNING OUTCOMES (MNTC): NA

G. METHODS FOR EVALUATION OF STUDENT LEARNING: Methods may include but not limited to:
1. Evaluation of electronic drawings files
2. Skill proficiency quizzes
3. Written tests
4. Drawings
5. Completed portfolio

H. RCTC CORE OUTCOME(S). This course contributes to meeting the following RCTC Core Outcome(s):
Critical Thinking. Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.

I. SPECIAL INFORMATION (if any):
Tuition differential