MOHAWK VALLEY COMMUNITY COLLEGE

UTICA AND ROME, NEW YORK

SCHOOL OF SCIENCE TECHNOLOGY ENGINEERING AND MATH (STTR)

COURSE OUTLINE

ENGINEERING GRAPHICS

ES171

I. CATALOG DESCRIPTION:

ES171 ENGINEERING GRAPHICS C‑2, P‑2, CR‑3

The course introduces the basics of engineering drawing, descriptive geometry and graphical mathematics. Topics include freehand and instrumental techniques; orthographic projection of points, lines, planes and solids; auxiliary views and sectional views, working drawings; graphs and graphical calculus; functional and alignment charts; and, vector geometry.

Perquisites: None

II. MATERIALS: None

III. STUDENT LEARNING OUTCOMES:

At the conclusion of the course, the students will be able to:

1. Understand requirements of graphically communicating a design.
2. Apply concepts of perspective and projection to design graphics.
3. Be able to sketch designs freehand.
4. Use CAD software to create solid models and engineering drawings.
5. Use CAD software to create assemblies of solid models.

IV. DETAILED COURSE OUTLINE:

1. Design and Graphic Communication
2. Freehand Sketching
3. Scales
4. Lettering
5. Geometric Construction
6. Multiview Sketching and Projection
7. Pictorial Sketching
8. Sectional Views
9. Dimensioning
10. Working Drawings
11. Parametric Solid Modeling (CAD)
12. Design Project

V. LABORATORY

Practicum time will be spent learning the use of an industry standard CAD platform.