THREE RIVERS COMMUNITY COLLEGE
COURSE OUTLINE

Course Number/Title: MEC K152 FUNDAMENTALS OF ENGINEERING GRAPHICS LECT.

Lecture 1 hrs. Laboratory _____ hrs. Credit 1 Contact 1 hrs.

Course Description: This course covers the basic concepts of orthographic projection, isometric and oblique drawings and sketches with basic drafting terminology and principle. The descriptive geometry component will nurture the students' visualization skills by identifying points, planes, and perpendiculars in various perspectives. Computer-aided drafting will be referenced along with the standard board drafting practices to correlate an understanding between the practices.

Method: Lecture, visuals, and handouts

Text: Engineering Design Graphics; James H. Earle; Prentice Hall

Prerequisites: MAT K095 or Higher Co-requisities: MEC K153

COURSE TOPICS/CONTENT

	HOURS
1. Engineering Graphic meaning and use in Engineering and science	.5
2. Graphic Instrument and tools	.5
3. Lettering styles, sizes, and use	.5
4. Geometry and Geometric Construction	2.0
5. Orthographic Projection Construction	2.0
6. Techniques of Dimensioning by American National Standards Institute (ANSI)	1.0
7. Techniques of Tolerancing by American National Standards Institute (ANSI)	1.0
8. Auxiliary Views Theory and Use	2.0
9. Sectional Views Theory and Use	2.0
10. Three Dimensional Pictorials Theory and use for Oblique, Isometric, and Technical Illustration	2.5
11. Working Drawing Format and Use	1.0

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Department Chairperson: *Tony Benoit*

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Measurable Objectives

The student will be able to:

1. Identify and describe graphic instruments and scales
2. Define the use of the graphic instruments and scales
3. Describe when to bisect lines and angles
4. Describe when to divide lines
5. Define arcs, circles, curves, points, lines, tangency, perpendicular and other associated descriptive geometry
6. Describe the uses of engineering graphics in industry
7. Describe the correlation between standard board drafting and CAD

The student will be able to according to ANSI standards:

1. Identify and describe the alphabet of lines
2. Identify standard drawing sizes
3. Identify the types and sizes of lettering
4. List title block information
5. Describe the use of notes, specifications and bill of materials
6. Describe drawing preparation
7. Describe orthographic projection
8. Identify and describe dimensioning and tolerancing terminology and standards
9. Identify views of drawings
10. Identify and describe isometric, oblique, multi view drawings
11. Identify auxiliary and sectional views
12. Identify and describe working drawings and their use