THREE RIVERS COMMUNITY COLLEGE
COURSE OUTLINE

Course Number/Title: MEC K114 Statics

Lecture 3 hrs. Laboratory 0 hrs. Credit 3 Contact 3 hrs.

Course Description: A basic course in Engineering Statics involving equilibrium with an introduction to strength of materials.

Method: Lectures, homework and quizzes

Text: Engineering Mechanics - Statics; R.C. Hibbeler, Prentice-Hall

Prerequisites: PHY K114 MAT K137 Co-requisites: MAT K186

COURSE TOPICS/CONTENT

	HOURS
1. Components & Resultant of Vectors	6
2. Equilibrium (Non-Concurrent Forces)	6
3. Free Body Diagrams & Friction	6
4. Trusses, Method of Joints	6
5. Shear & Moment Diagrams	6
6. Centroids, Centers of Mass, Moment of Inertia	6
7. Concept of Stress	3
8. Stress & Strain – Axial Loading	3
9. Torsion & Bending	3
TOTAL:	45

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Program Coordinator: Robert Lantz

Department Chairperson: Tony Benoit

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Measurable Objectives

The student will:

1. Be able to draw free body diagrams of systems isolated from their environment.
2. Be able to analyze the free body diagrams for forces.
3. Be able to utilize the method of joints as applied to trusses.
4. Be able to determine centroids of areas and moments of inertia of various shapes.
5. Be able to run computer programs to verify theoretical computations.
6. Be able to do elementary stress calculations – axial.
7. Be able to do elementary stress calculations – torsional.