

THREE RIVERS COMMUNITY COLLEGE
COURSE OUTLINE

Course Number/Title: MEC K231 Computer Aided Engineering

Lecture 1 hrs

Laboratory 0 hrs

Credit 1 hrs

Contact 1 hrs

Course Description: A continuation of Intro to Computers with a primary emphasis upon the personal computer as a problem solving tool for the mechanical student. Upon completion of this course, the student will have an awareness of (1) existing mechanical software on the market, (2) an application media for concepts learned in Intro to Computers, and (3) computer solution methods for complex mechanical problems.

Method: Lecture

Text: TI-89 Calculator, "Spreadsheet Tools for Engineers Using Excel"; Gottfried

Prerequisites: CSA K105

Co-Requisites: MEC K232

COURSE TOPICS/CONTENT

HOURS

1. Pro-E	5
2. Microsoft Excel	1
3. Word Processing (MS Word, MS Edit)	1
4. DOS & Windows & E-Mail & Internet	1
5. Structural Analysis (Marc Mentat Finite Element Analysis)	1
6. Visual Basic & TI-89 Personal Programming	2
7. Graph Plotting (Excel & TI-89)	1
8. Binary, Hexidecimal & Decimal Conversions	1
9. Simultaneous Solutions	1
10. Sorting Techniques	1
TOTAL HOURS:	15

Date: February 12, 2008

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Program Coordinator: Robert Lantz

Department Chairperson: Tony Benoit

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Measurable Objectives

Upon completion of the course, the student will be capable of using the software package introduced in the course including:

1. Creation and modification of engineering drawings using Pro-E
2. Development of spreadsheets using Microsoft Excel
3. Basic word processing
4. Operation of DOS & Windows and the other software packages which are introduced
5. Creation of basic engineering graphs
6. Creation of Visual Basic & TI-89 programs for personal computing
7. Operation of E-Mail & Internet Software
8. Creations of Finite Element Models Utilizing Marc Mentat