METROPOLITAN STATE COLLEGE *of* DENVER
Office of Academic Affairs

REGULAR COURSE SYLLABUS

School of: Professional Studies

Department: Engineering Technology

CIP Code: 15.0303

Prefix & Course Number: EET 2340 **Crosslisted With*:** _____

Course Title: Technical Programming Applications

Check All That Apply: Required for Major: X Required for Minor: X Specified Elective: _____

Required for Concentration: _____ Elective: _____ Service Course: X

Required for Certificate: X

Credit Hours: 3 (3+0)

Total Contact Hours per semester (assuming 15-16 week semester):

Lecture 45 Lab 0 Internship _____ Practicum _____ Other (please specify type and hours):_____

Schedule Type(s): L **Grading Mode(s):** L

Variable Topics Courses (list restrictions, including the maximum number of hours that can be earned**):

____

** **NOTE: This information must be included in the course description.**

Restrictions (Variable Topics Course): _____

Prerequisite(s): MTH 1400 or (MTH 1110 and MTH 1120) or higher level math course, with a grade of "C" or better.

Corequisite(s): _____

Prerequisite(s) or Corequisite(s): _____

Banner Enforced:

Prerequisite(s): MTH 1400 or (MTH 1110 and MTH 1120) or MTH 1410 or MTH 2410, with a grade of "C" or better.

Corequisite(s): _____

Prerequisite(s) or Corequisite(s): _____

Catalog Course Description:
This is a beginning-level course using Visual Basic and spreadsheets. Students will solve engineering applications problems from the various areas of civil, electrical and mechanical engineering technology.

APPROVED:

Department Chair **OR** Program Director	12 Feb 08 Date
Dean **OR** Associate Dean	2/13/08 Date
Associate VP, Academic Affairs	3/7/08 Date

*If crosslisted, attach completed Course Crosslisting Agreement Form

EET 2340:`

Required Reading and Other Materials will be equivalent to:

Schneider, *An Introduction to Programming Using Visual Basic 2005, 6th Edition.* Prentice Hall

Specific, Measurable Student Behavioral Learning Objectives:

Upon completion of this course the student should be able to:

1 Analyze and solve basic engineering problems
2 Decompose a problem into a flow-chart of constituent tasks and decisions.
3 Design a problem solution using the Visual Basic programming language.
4 Create solutions for real world engineering problems from multiple disciplines
   a. Civil Engineering
   b. Mechanical Engineering
   c. Electrical Engineering, Electrical and Mechanical
   d. Applied Mathematics
5 Document Programs through annotation, comments and meaningful variable names.
6 Identify and correct program errors using standard debugging methods.

Detailed Outline of Course Content (Major Topics and Subtopics) **or Outline of Field Experience/Internship (experience, responsibilities and supervision):**

I. Introduction to event driven programming

II. Writing Programs:
   A. Elements and Form
   B. Input and Output
   C. Numbers and Variables
   D. Arithmetic Operators
   E. Conditional Branching
   F. Loops
   G. Arrays and Matrices
   H. Advanced Input/Output Commands
   I. Numeric Functions
   J. Subroutines. And Functions
   K. Strings and String Functions
   L. Random Numbers
   M. File I/O

III. Engineering Applications:
   A. Analysis of Electrical Circuits Containing:
      1 Resistors
      2 Inductors
      3 Capacitors
      4 Combinations of Above
   B. Circuit Design
      1 Filters
         a. High pass
         b. Low pass
         c. Band pass
      2 Oscillators
         a. High Frequency
         b. Low Frequency
   C. Stress / Strain
   D. Engineering Economics
   E. Mechanics of Materials

IV. Spreadsheets
   A. Civil
   B. Electrical
   C. Mechanical

Evaluation of Student Performance:

1. Written exams
2. Homework
3. Programming Assignments