COUNTY COLLEGE OF MORRIS
Course Information Outline

Course Title Technical Computer Programming **PREFIX&NUMBER** ENR 120

Lecture Hours 2 **Laboratory Hours** 2 **Credit Hours** 2 **Course Fee** Yes

Department Chairperson Approval V. L. Fuentes **Date** 2/21/2012

Division Dean Approval P. J. Enright **Date** 3/1/12

General Education Information:

Categories:

□ Communications □ History □ Humanities □ Mathematics
□ Science □ Social Science □ Technological Competency
□ Diversity *(check if course also meets diversity category)*

Integrated Goals: *(check all that apply)*

□ Ethical Reasoning and Action □ Information Literacy

1. **Catalog Course Description**
   This course is an introduction to computer programming with application to engineering technology. Microcomputers will be used to develop application programs in a programming language.

2. **Prerequisite(s)**
   MAT 014 Basic Algebra I or equivalent

3. **Co-requisite(s)**

4. **Textbooks**
   - Deitel, *Simply Visual Basic, An Application-Driven Tutorial Approach,* latest edition, Prentice Hall
   - Zak, *Introduction to Programming with C++,* latest edition, Course Technology (needed only when C++ is taught)

5. **Supplementary Books and/or Materials**

6. **Specialized equipment, supplies, facilities, for classes limited by enrollment or restricted by accreditation and/or equipment limitations.** (Information will be used to determine differential funding category.)

7. **Course Content (List of Topics)**
   Introductory Concepts-
   The Integrated Design Environment (IDE)
   Objects, Forms, properties
   Visual BASIC language elements
   Problem Solving Techniques
   Control Structures-Decision and loops
   Functions
   Time and Timers
   Global Variables

8. Statement of Course LEARNING OUTCOMES

Upon completion of this course, the student will be able to:

- Describe basic programming language components such as translation, development system and syntax
- Describe event driven code, object oriented programming and object properties
- Design programs using techniques and approaches typically encountered in project development
- Translate program requirements and specifications into program code
- Debug and test program code
- Understand various data types to create programs using variables, constants and operators, and examine program execution
- Develop programs using sub procedures, functions, arguments and event procedures
- Understand the development of codes to execute programs involving decision logic and repetition
- Develop algorithms for a variety of applications

9. Statement of Relation to Curriculum(s)

A required course for Electronics and Mechanical Engineering Technology, the Biomedical Equipment option, and Computer Integrated Manufacturing technology, and is a recommended elective for other technology programs.

10. Format for offering the course (check all that apply)

X Traditional ☐ **On-Line** **X Hybrid**