DIVISION: Information Technology
CURRICULUM: Information Technology
COURSE TITLE: Programming Concepts and Fundamentals
COURSE NUMBER: ITC 110
CREDITS: 5
TYPE: Professional Technical
LENGTH: One quarter
PREREQUISITES: MIC 101 Introduction to Computer Applications, or demonstrated skills with Microsoft Windows and the Microsoft Office Suite
COURSE DESCRIPTION: This course introduces basic computing concepts such as Input-Processing-Output, control structures, arrays, structured programming, and object oriented programming using Visual Basic as an example language.
COURSE OUTCOMES: After completing the course Students will be able to:
- List all necessary inputs for a given program
- Define algorithms for simple programming processes
- Use pseudocode to present algorithms
- List the outputs for a given program
- Select appropriate controls for input and output
- Set initial control properties
- Define variables and variable types for a given process
- Identify and use appropriate variable scope
- Use naming and coding conventions
- Document code internally with comments
- Correctly define and use selection structures such as If/Then, Select case
- Correctly define and use Repetition structures such as For/Next, Do/While
- Define and use simple arrays
• Define and create structured programs using sub routines and functions
• Employ basic data validation and error handling
• Define basic Object Oriented programming concepts and terms

REQUIRED TEXT: Variable (Example: Simple Program Design, by Leslie Anne Robertson, and Visual Basic in Plain English by Brian Overland)

OTHER REFERENCES: Materials Available on the World Wide Web, Handouts, Periodicals, Library resources

TOPICAL OUTLINE:
1. Programming languages and machine language
2. Input/Processing/Output
3. The Visual Basic environment
4. Algorithms and pseudocode
5. Controls: properties and methods
6. Naming conventions, comments
7. Creating variables and constants, assigning types and values
8. Variable scopes
9. Selection structures
10. Repetition structures
11. Arrays
12. Structured programming with subs and functions
13. Error handling
14. Object oriented programming
15. Overview of advance topics (com, active x, etc.)

Created by Steve Conger August, 2000