

Date: October 2005

- I.** Course Name: Visual Basic  
Prefix and Number: CSC 215  
Credit Hours and Contact Hours: 3 credit hours - 3 contact hours  
Course Description:

Visual Basic is a Windows programming language whose function is to help the users build their own special-purpose Windows applications. Visual Basic.net will be used to teach topics including domain definition, GUI design, and development and data access modules. Pre-requisites: CSC115 with a grade of C or better or programming experience.

## **II. Course Outcomes and Objectives**

### **Learning Outcomes**

Upon completion of the course the participant will be able to:

- A. Build an Application
  - create the user interface
  - set properties
  - write code
- B. Work with Classes and Controls
  - additional properties of controls
  - subroutine
  - declaration procedures
  - copying controls and code
- C. Multiple Forms and Debug
  - multiple forms and dialog boxes
  - Window State and modality
  - adding an icon to a form
  - using image, line and scroll bar controls
  - debugging applications
- D. Use Color, Menus, the Data Control, and General Procedures
  - using color within applications
  - creating menus
  - using a control array
  - looping
  - general procedures
- E. Drag and Drop Functionality
  - data types
  - calls to subroutines
  - InputBox and UCase\$ functions
  - remark statements
  - printing a record of the application

### **Relationship to Academic Programs and Curriculum**

This course is a requirement for AAS IT (advisement area 1) CSC elective for the AS IS and CSC majors.

### **Competencies Addressed in this Course**

Writing (writing detailed specifications)  
Oral Communication (presenting final products)

Reading (reading technical manuals)  
Computer Literacy (competency using software and hardware)  
Problem Solving and Critical Thinking (creating software solutions to problems)  
Ethics and Values (computer ethics)  
Global Concerns (software applications)  
Professional Competency (professional products)

### **III. Methods of Instruction**

#### **Types of Course Materials**

1. Textbook:

#### **Methods of Instruction**

1. Lecture
2. Discussions
3. Demonstrations
4. Programming
4. Tutorials

#### **Assessment Measures**

Activities will emphasize problem solving using the computer - specifically programming the computer in Windows applications.

#### **Methods of Evaluation**

The demonstration of the satisfactory achievement of the above learning outcomes will be the responsibility of the student, facilitated by the instructor. The department maintains a very open attitude and believes each instructor should determine the grading system and evaluation methods that will be used in his/her sections of the course. It is highly recommended that these be communicated to the students the first week of the semester, preferably in writing.

Among the evaluation methods that could be used are exams, quizzes, and programming assignment projects. Any grading system used must be consistent with the College Catalog and Middle States grading procedure.

### **IV. General Outline of Topics Covered**

#### **A. Fundamentals of Visual Basic**

- vb Objects
- vb Events
- numbers, strings
- input/Output
- built in Functions

#### **B. Procedures**

- subprograms
- functions
- modular design
- programming projects

#### **C. Decisions**

- relational and logical operators
- if blocks

- case blocks
- debugging
- immediate, local windows
- programming project

#### **D. Repetition**

- do loops
- processing data with do loops
- for next loops
- programming project

#### **E. Arrays**

- creating and accessing arrays
- using arrays
- sorting and searching arrays
- parallel arrays

#### **F. File processing**

- sequential files
- **random access files**

#### **G. Additional Controls and Objects**

- list and combo boxes

#### **H. Database Management**

- introduction to database
- relational theory
- using the data-bound control
- creating a database
- programming project

#### **I. Object Oriented Programming**

- classes and objects
- collections and events
- using active x controls