SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON

COURSE OUTLINE

Course Title: Introduction to Visual Basic

Code No.: CSD206 Semester: Three

Program: Computer Programming

Author: Willem de Bruyne

Date: June 2001 Previous Outline Date: January 2000

Approved: _____ _____
Dean Date

Total Credits: 5 Prerequisite(s): CSA101
Length of Course: 16 wks Total Credit Hours: 64

I. COURSE DESCRIPTION:

Visual Basic is relatively easy to use, and it doesn't take too long before you can write your own programs. This course will give an overview of the tools Visual Basic has to offer, some guidance about ways to create, save and modify Visual Basic projects.

The features of the language are covered, and the programming environment. Later in the course you will be ready to create a complete Visual Basic application. In doing so, we will cover setting property values of objects, writing code, testing programs, saving/opening/modifying existing projects, as well as printing form images, object properties, and program instructions. As well as the common controls, students will work with ActiveX controls.

The course focuses on hands-on, so there will be plenty of do-it-yourself features throughout the course.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course the student will demonstrate the ability to:

1) Understand What Visual Basic is

Potential Elements of the Performance:

- Event-Driven and Object Oriented Programming
- Why study Visual Basic
- Entering and exiting VB

2) Understand Visual Basic's Main Components

Potential Elements of the Performance:

- The Menu Bar
- The ToolBar
- The Form Window
- The ToolBox
- The Properties Window
- The Project Window

3) Get Help

Potential Elements of the Performance:

- Context-sensitive Help
- Online help
- Books online
- Other sources

4) Set Property Values

Potential Elements of the Performance:

- Changing property values
- Caption, text, and name settings

5) Write Code and Running the Program

Potential Elements of the Performance:

- Writing code
- Running a program
- Stopping a program

6) Save, Open, and Modify a Project

Potential Elements of the Performance:

- Saving a project
- Opening an existing project
- Modifying a project

7) Print a Form Image, Form Text, and Code

Potential Elements of the Performance:

- Choosing options from a print dialog box
- Trouble shooting printing problems

8) Understand Visual Basic Objects

Potential Elements of the Performance:

- Some common controls
- Adding and removing controls

9) Set Object Properties

Potential Elements of the Performance:

- The components of the properties window
- Changing property values
- Visual Basic's intrinsic constants
- Visual Basic's object browser

10) Understand Naming Conventions

Potential Elements of the Performance:

- Why change control names
- How to name form objects

11) Use Font, Color, Picture, Visible and Enable Properties

Potential Elements of the Performance:

- Font properties
- Color scheme properties
- The picture property
- The visible property
- The enable property
- The importance of object properties

12) Change Property Values with Code

Potential Elements of the Performance:

- Properties, methods and events
- A generic instruction

13) Use CheckBoxes, OptionButtons, and Frame Controls

Potential Elements of the Performance:

- Checkboxes
- Optionbuttons
- Frames

14) Use Drag and Drop Techniques

Potential Elements of the Performance:

- Dragover events
- Dragdrop events
- Coding for bad drops

15) Manipulate Special Techniques with Forms

Potential Elements of the Performance:

- Form run-time properties
- Using Form_load to change property values
- Printing on a form
- Form click and double click
- Using multiple forms
- Printing forms at run time

16) How to Manage Controls

Potential Elements of the Performance:

- Listing form objects
- Common properties

17) Use CommandButtons

Potential Elements of the Performance:

- The cancel and default properties
- Access keys

18) Create Labels

Potential Elements of the Performance:

- Some useful label properties
- Experimenting with autosize and wordwrap properties

19) Use TextBoxes

Potential Elements of the Performance:

- Controlling the contents of textboxes
- Validating data in textboxes
- Changing events
- Using textboxes for output

20) Understand ScrollBars

Potential Elements of the Performance:

- Property values
- A change event
- Using scrollbars as an output indicator

21) Use InputBoxes and MessageBoxes

Potential Elements of the Performance:
- Inputboxes
- Messageboxes

22) Understand ActiveX Controls

Potential Elements of the Performance:
- ActiveX and conventional form controls
- Loading ActiveX Controls
- Saving Projects containing ActiveX controls

23) Use the Calendar Control

Potential Elements of the Performance:
- Adding a calendar control to a form window
- The calendar control's properties methods and events

24) Use the CommonDialog Control

Potential Elements of the Performance:
- Using the colour dialog box
- Using the font dialog box
- Using the Open and Save Dialog Boxes

25) Use the RichTextBox Control

Potential Elements of the Performance:
- Changing fonts in a RichTextBox
- Saving the text in a RichTextBox to a file
- Opening a file in a RichTextBox

26) Use the MSChart Contol

Potential Elements of the Performance:
- Creating a graph using the MSChart Control
- Creating Data for a MSChart Control

27) Use the MaskEdit Control

Potential Elements of the Performance:
- The mask property
- The validationerror event
- The format property

28) Write Code

Potential Elements of the Performance:
- Environmental options
- Finding and retrieving lost procedures

29) Use Editing Tools

Potential Elements of the Performance:
- Basic editing tasks
- Cut, copy, and paste
- Cursor movement
- Search and replace

30) Debug Visual Basic Programs

Potential Elements of the Performance:
- The immediate window
- Using debug to step through a visual basic program
- Break mode
- Altering variables in debug

31) Document Programs

Potential Elements of the Performance:
- Form image, form text, and code documentation
- Comment statements
- Creating about windows
- Printing output

32) Use Variables and Values

Potential Elements of the Performance:
- Rules for naming variables
- Manipulating variables at run time
- Testing for acceptable numeric data

33) Understand Operators and Precedence

Potential Elements of the Performance:
- Arithmetic operators
- Precedence

34) Use Variables and Data Types

Potential Elements of the Performance:

- Data types
- Dim statement
- Overflow
- Option explicit

35) Understand Scope of Variables

Potential Elements of the Performance:

- Form level declarations
- Module and global level declarations
- Static variables

36) Format Output

Potential Elements of the Performance:

- Using tabs to format output
- Predefined formats
- User-defined formats

37) Use the If-Then Statements

Potential Elements of the Performance:

- Simple If satements
- Multiline If statements
- If-Then-Else staements
- The Else-If clause
- Nested If clauses
- Using If statements to test for Valid data

38) Use the Select Case Statements

Potential Elements of the Performance:

- Testing for matching codes
- Testing for range of values

39) Create Subroutines and On-Error Statements

Potential Elements of the Performance:

- Line numbers and line labels
- On-GoSub statements
- On-Error statements

40) Loop with For-Next Staements

Potential Elements of the Performance:

- Start values, stop values and step values
- Nesting For-Next loops
- Exiting prematurely from a loop

41) Loop with Do Loops

Potential Elements of the Performance:

- Simple Do Loops
- Loop While and Loop Until Do Loops
- Do While and Do Until loops
- Looping with While-Wend

42) Data Arrays

Potential Elements of the Performance:

- One-Dimensional arrays
- Two-Dimensional arrays
- Declaring array variables

43) Control Arrays

Potential Elements of the Performance:

- Four methods of creating Control Arrays
- Experimenting with Control Arrays
- Examples of Control Arrays

III. MAJOR TOPICS:

1) An Introduction to Visual Basic

2) Your First Visual Basic Application

3) Form Controls and Their Properties

4) Altering Properties at Run Time

5) Some Additional Features of Visual Basic

6) ActiveX Controls

7) Coding, Debugging, and Documenting Visual Basic Programs

8) Visual Basic Variables

9) Programming Decision Making

10) Programming Looping

11) Data Arrays

12) Control Arrays

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Application Programming in Visual Basic 5, 2nd E., Mark G. Simkin

V. EVALUATION PROCESS/GRADING SYSTEM

The mark for this course will be arrived at as follows:

Quizzes 4 @ 15%
Assign 3 @ 12%
Participation 4%
100%

Grading Scheme:

A+ 90–100% (Outstanding)
A 80–89% (Excellent)
B 70–79% (Average)
C 60–69% (Satisfactory)
R (Repeat)
X (Incomplete)

VI. SPECIAL NOTES:

- Students will receive a grade of zero for late assignments unless prior permission is granted from the instructor.
- Students are expected to attend classes on a regular bases and treat their peers and instructors in a business like manner.
- Students are expected to inform the instructor via phone or e-mail if they are unable to attend class.

- Students missing a test will receive a grade of zero unless prior permission is granted from the instructor.

VII. PRIOR LEARNING ASSESSMENT

Students who wish to apply for advanced credit in the course should consult the instructor.