

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 2000

Previous Outline Date: January 1999

Approved: \_\_\_\_\_

Dean

Date

Total Credits: 5

Prerequisite(s): CSA101

Length of Course: 16 wks

Total Credit Hours: 64

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## 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 Control

### 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 statements
- Multiline If statements
- If-Then-Else statements
- 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 Statements**

**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

### **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**

## IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Application Programming in Visual Basic 5, 2<sup>nd</sup> E., Mark G. Simkin

## V. EVALUATION PROCESS/GRADING SYSTEM

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

Quizzes 6 @ 10%  
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.