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

COURSE OUTLINE

Course Title: Introduction to Visual Basic

Code No.: CSD2060 Semester: Three

Program: Computer Programming

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Date: June 2002 Previous Outline Date: January 2001

Approved: ______________________ ______________________
Dean Date

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

For additional information, please contact, Dean, School of Trades & Technology, (705) 759-2554, Ext. 642.

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) Overview

Potential Elements of the Performance:

- ♦ A brief description of Visual Basic
- ♦ A brief history of programming languages
- ♦ An introduction to the terminology used in object-oriented programming languages
- ♦ A Visual Basic demonstration

2) An Introduction to Visual Basic

Potential Elements of the Performance:

- ♦ Start and exit Visual Basic
- ♦ Identify the components of the Visual Basic display
- ♦ Set the properties of an object
- ♦ Create, save, run, and stop a Visual Basic application
- ♦ Open both a new project and an existing project
- ♦ Access Visual Basic Help
- ♦ Add a label control to a form
- ♦ Move and size a control
- ♦ Delete a control from a form
- ♦ Select multiple controls
- ♦ Save files under a different name
- ♦ Add an image control, a command button, and a frame control to the form

- Add an ActiveX control to both the toolbox and the form
- Enter code in a Code window
- Explore the Options dialog box
- Print the form, the properties of the objects of the form, and the code
- Make an executable file

3) Designing an Application

Potential Elements of the Performance:

- Plan an OOED application in Visual Basic
- Complete a TOE (Task, Object, Event) chart
- Follow the Windows standards for layout and labeling of controls
- Build the user interface using your TOE chart and sketch
- Follow the Windows standards regarding the use of graphics, color, and fonts
- Apply the BackStyle, BorderStyle, and Appearance properties
- Add a text box control to a form
- Use the TabIndex property to control the focus
- Lock the controls on the form
- Assign access keys to the controls
- Use the TOE chart to code the application
- Use pseudococde to plan an object's code
- Use the SetFocus and PrintForm methods
- Write an assignment statement
- Include internal documentation in the code
- Write Visual Basic equations
- Use the Val and Format functions
- Set the MinButton, MaxButton, and ControlBox properties

4) Using Variables and Constants

Potential Elements of the Performance:

- Create a local, form-level, and global variable
- Assign a data type to a variable
- Control the scope of a variable
- Use the Option Explicit statement
- Add and remove a file from a project
- Create a symbolic constant
- Use local and form-level variables in an application
- Concatenate strings
- Use the InputBox function
- Find information in the Object Browser
- Include the vbNewLine constant in code
- Set the default button for a form
- Add a form to a project

- Distinguish between a modal and a modeless form
- Create a dialog box
- Define the startup form
- Add a module to a project
- Use a global variable in an application
- Center a form on the screen
- Use the Load and Unload statements

5) The Selection Structure

Potential Elements of the Performance:

- Write pseudocode for the selection structure
- Create a flowchart to help you plan an application's code
- Write an If…Then…Else statement
- Write code that uses relational operators and logical operators
- Use the UCase function
- Write a nested selection structure
- Write the Select Case statement
- Include the To and Is keywords in a Select Case statement
- Include Visual Basic icons in an interface
- Add option buttons and a check box to a form
- Use GUI design standards for a frame control, option buttons, and check boxes
- Draw a control on the form and in a frame
- Use the Randomize statement, and the Rnd and Int functions
- Create a user-defined sub procedure
- Execute the Call statement
- Create a default option button
- Create a static variable
- Use the LoadPicture, MsgBox, and Len functions
- Set the SelStart and SelLength properties
- Code the GetFocus event

6) The Repetition Structure

Potential Elements of the Performance:

- Create the For Next, Do While, and Do Until repetition structures
- Move a control across the screen
- Initialize and update counters and accumulators
- Create a control array
- Set the Enabled property
- Code a control array's Click and GetFocus events
- Code the Change event
- Align the contents of a label control

- Communicate with the user using the MsgBox function
- Code a form's Unload event

7) Sequential Access Files, Menus and Reports

Potential Elements of the Performance:

- Create the For Next, Do While, and Do Until repetition structures
- Move a control across the screen
- Initialize and update counters and accumulators
- Create a control array
- Set the Enabled property
- Code a control array's Click and GetFocus events
- Code the Change event
- Align the contents of a label control
- Communicate with the user using the MsgBox function
- Code a form's Unload event

8) Dialog Boxes and Error Trapping

Potential Elements of the Performance:

- Display the standard dialog boxes using the Common Dialog control
- Set the Common Dialog control's Filter and FileName properties
- Set the Common Dialog control's Flags property
- Save a file using the Save As dialog box
- Write a string of characters to a sequential file using the Print # statement
- Set the Common Dialog control's CancelError property
- Include an error handling routine in code
- Code the File Menu's New command
- Read a string of characters from a sequential file using the Input function
- Return the number of characters in a sequential file using the LOF function
- Code the File menu's Save, Print, and Open commands
- Code the form's Unload event

9) Random Access Files

Potential Elements of the Performance:

- Create a user-defined data type
- Open and close a random access file
- Write data to a random access file
- Read data from a random access file
- Initialize a random access file
- Utilize a control array and a random access file in an application

- ♦ Include Visual Basic’s color constants in code
- ♦ Pass information to a sub procedure
- ♦ Refer to a control in another form
- ♦ Clear a record from a random access file
- ♦ Use the Trim function

III. REQUIRED RESOURCES/TEXTS/MATERIALS:

Programming with Microsoft Visaul Basic 6.0 ENHANCED EDITION, by Diane Zak

IV. 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)

V. 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.