

Mr. Giansante



Curriculum

Visual Basic

Learning Outcomes

August 2016

Learning Outcomes

The student will ...

General

- Demonstrate proper care of all computer equipment
- Demonstrate positive attitudes and work habits
- Demonstrate interpersonal and organizational skills
- Demonstrate Problem Solving Skills
- Make Productive Use of Time
- Demonstrate independence skills and only seek help when necessary

The Programming Environment

- Identify the components of the Visual Basic interface
- Customize the Visual Basic environment
- Use Help Resources Effectively (online Help, web sites, newsgroups)
- Compile and run an application

Programming Concepts

- The basic philosophy of programming with Visual Basic
- Effective Graphical User Interface (GUI) Design
- Describe the three error types (syntax, run-time, logic)
- Test and Debug Applications

Variables and Constants

- Differentiate between variables and constants
- Define the scope of code and variables
- Declare variables and constants
- Use built-in constants

Controls and Objects

- Describe the relationships among controls, events, properties, and methods
- Place controls on a form and set properties at design-time
- Add code to a control's events
- Use the basic Windows controls (Labels, Buttons, TextBoxes, ListBoxes, RadioButtons, CheckBoxes, ScrollBars)
- Enable and disable controls
- Add a custom control to the environment
- Change the tab order, Set a tab stop
- Use the Control Naming Standards

Forms

- Add a Form to a project
- Use Form methods and events
- Set the application's startup Form

Menus

- Use the Menu Editor to create Multi-Level Menus
- Create a Menu with Access Keys and Separators
- Disabling Menu Items
- Create an "Exit" dialog box
- Create an "About" Dialog box

Learning Outcomes

DialogBoxes

- Design and display a MessageBox with different options using built-in constants
- Get input from a user using an InputBox
- Validate user Input and re-prompt if necessary (with informative error message)

Decision Structures

- Use logical conditions (And, Or, Not)
- Use comparators (<, >, =, <=, >=, <>)
- If-Then-Else
- Select Case

Repetition Structures

- For...Next
- Do While
- Do Until

Arrays

- Be able to identify terms used when dealing with arrays (ex. Index)
- Be able to declare arrays, including multi-dimensional
- Be able to insert entries into an array
- Be able to retrieve entries from an array
- Be able to use loops in conjunction with arrays
- Be able to sort the entries in an array using a simple Bubble Sort

Graphics

- Understand the concepts involved in drawing basic 2D graphics
- Be able to draw dots and lines to PictureBox controls
- Be able to draw rectangles and ellipses to PictureBox controls
- Be able to draw filled rectangles and ellipses to PictureBox controls
- Be able to change the hatchstyle of filled graphics to PictureBox controls
- Be able to clear the contents of PictureBox controls
- Be able to program simple games using graphics in a PictureBox controls

String and Char Variables

- Demonstrate an understanding of the structure of String variables
- Demonstrate an understanding of the structure of Char variables
- Be able to declare String and Char variables
- Be able to determine the length (number of characters) of a String
- Be able to extract one character from the String using Chars()
- Be able to extract a substring from a String
- Be able to convert String variables to uppercase or lowercase
- Be able to remove or add spaces from the beginning or end of a String
- Be able to use built-in functions to determine if a Char variable is a number, letter, uppercase, lowercase, etc.
- Be able to use For-Next loops to "scan" the characters in a String

Learning Outcomes

Format Command

- Be able to format the appearance of Dates and Times

TextBoxes

- Be able to format the appearance of text in a TextBox control (ie. Bold, Italics, Underline)
- Be able to change the font of the text in a TextBox control using a ComboBox control
- Be able to change the font size of the text in a TextBox control using a ComboBox control
- Be able to change the appearance of the font of the text in a TextBox control using a FontDialog control
- Be able to use the built-in Undo function
- Be able to use the built-in SelectAll function

Windows Clipboard

- Be able to use the Windows Clipboard to Cut, Copy and Paste text

Text File Operations

- Be able to use OpenFileDialog and SaveFileDialog to prompt the user for a file name
- Be able to specify file types to be shown in the Dialog using the Filter property
- Be able to write text to a file
- Be able to read text from a file