

**AUSTIN COMMUNITY COLLEGE
CONTINUING EDUCATION**

VB.Net

(24 hours)

ITSE 6051

COURSE SYLLABUS

Course Description: Create Microsoft Visual Basic.Net applications. Setup and run the Visual Basic.Net Express Edition, understand the .Net Framework, and navigate the development environment in order to create efficient and effective applications. Students will use the appropriate data types and procedural functions, handle errors, and deal with incorrect or unexpected input. Students get hands-on experience by completing labs, where they will build applications, using the Visual Studio Express edition environments and tools. **Prerequisites:** Introduction to Programming Languages course or working knowledge of programming concepts.

Objectives: Every student will be able to:

- Set up the Visual Basic Express Edition environment and identify the elements with it.
- Demonstrate understanding of the difference between design time and run time.
- Explain the event-driven programming concept.
- Illustrate the purpose of a project file and file types that may be included in a project file.
- Define and give examples of each of the following: object, property, method, and event.
- Describe some of the properties and events associated with a form.
- Set properties for command buttons, text boxes, and labels.
- Write and execute Visual Basic.Net code to perform simple tasks.
- Control the Visual Basic environment and customize it to their needs.
- Control a program's closing routine.
- Use the various data types used when working with variables.
- Describe the difference between a variable and a constant, and a Sub or Function Procedure.
- Create a Function procedure that accepts arguments and returns a value.
- Use the correct property, method, or event to achieve a desired program format and output.
- Use the appropriate conditional or looping structure to control program flow, and understand situations where different types are appropriate.
- Stop program execution using breakpoints and watch expressions.
- Identify and use the standard controls in Visual Basic.Net

**AUSTIN COMMUNITY COLLEGE
CONTINUING EDUCATION**

VB.Net

(24 hours)

ITSE 6051

COURSE SYLLABUS

Rationale: Visual Basic.Net is a very popular programming language, used in both desktop and web-based applications.

Required Material: None

Type of Course: Short course

Evaluation: Students will be evaluated on their competency in performing a variety of hands-on exercises created to insure the student has achieved all course objectives. In order to grant CEU credit for a course the students must be able to complete assessment questions for each part of the course given by the instructor. The instructor will validate each participant's achievement of the course objectives by signing and awarding individual certificates of completion.

Course Outline:

Lesson 1: Introduction to the VB.Net environment

- Visual Basic 2008 Express Edition Setup requirements
- Download Visual Basic 2008 Express Edition
- Overview of the .NET Framework
- Understanding how the .NET framework works
- Features of Visual Basic .NET 2008
- Overview of VB.NET 2008 development environment
- Creating a simple program using VB.Net
- Projects and Solutions
- Some Visual Basic Terminology
- Naming convention for some common controls
- Using help in Visual Basic 2008
- Where to find VB.NET reference materials on the Internet

Lesson 2: VB.Net Fundamentals

- Focusing and organising your development
- Namespaces, Modules, Classes, Methods and Procedures
- The .NET Base Class Library
- Working with forms and basic controls including setting their properties
- Writing and documenting code in the code editor window

**AUSTIN COMMUNITY COLLEGE
CONTINUING EDUCATION**

VB.Net

(24 hours)

ITSE 6051

COURSE SYLLABUS

Lesson 3: VB.NET Number and Value Types

The .NET Data Types
Integer Types
Floating point types
Char
Boolean
Strings
Basic Properties of Objects
Arithmetic operators
Formatting Numbers
Relational operators
Displaying a message

Lesson 4: Variables and Procedures

Overview of variables
Using a variable to store input
Using a variable for output
Variable scope
Converting Types
Creating and Using Constants
Creating and Using Structures
Storing Data in Arrays
Using Dates and Times
Manipulating Strings and Characters
Accept / Cancel buttons

Lesson 5: Controlling Program Execution

Using Decision Structures
If....Then Decision Structures
If....Then.....Else Decision Structures
Short – Circuiting Using AndAlso and OrElse
Select Case Decision Structures
Using Looping Structures
The For....Next Loop
Displaying information using the For....Next loop
More complex For....Next Loops

**AUSTIN COMMUNITY COLLEGE
CONTINUING EDUCATION**

VB.Net

(24 hours)

ITSE 6051

COURSE SYLLABUS

Using Do Loops

Lesson 6: Validating User Input

Types of errors
Restricting User Input
Using Events in Field – Level Validation
Validating Characters
Handling the Focus
Validating and Validated Events
ErrorProvider Component
Form – Level Validation
Progress check

Lesson 7: Handling Errors and Exceptions

Types of Errors
Syntax Errors
Runtime errors
Logic errors
Using the Debugger
Handling Exceptions
Progress check
Lesson Summary