

Introduction to Programming using C#

Learn C# programming in a Windows environment using Visual Studio. Develop skills in designing and writing simple C# computer programs using basic coding structures such as variables, constants, enumerations, decision making statements, loops, arrays, methods, and error handling. Learn how to use common Windows controls to provide input into an application. Get hands-on practice with applying basic coding structures to common programming tasks by creating new code and revising existing code.

Who should take this course?

This is a beginning C# course that is designed for individuals who want to learn the C# language. This includes individuals with any level of programming experience in other languages. This course is also designed for students who want an introduction to the .NET programming environment using Visual Studio. This is a required course for the C# Programming Certificate Program and Web Development Certificate Program.

Course Objectives

- Create assignment statements (using basic properties of the TextBox, Label, RadioButton, CheckBox, PictureBox, and Button controls) by adding functionality into empty existing event procedure stubs.
- Use variables, constants, decision making statements, and try/catch blocks by creating event procedures for the Button controls.
- Create methods to eliminate duplicate code in existing event procedures of a given completed application.
- Apply loop statements, string methods, and basic properties of the ListBox control by creating event procedures for the TextBox and Button controls.
- Use an array, an enumeration, and basic properties of the ComboBox, ColorDialog, FontDialog, and NumericUpDown controls by creating event procedures for menu controls.
- Transfer data between a ComboBox control and an outside flat file by using the OpenFileDialog control and creating separate event procedures for the Form control.

Course Details

- Length: 27 hours
- Format: Classroom
- Prerequisites: Windows XP Introduction and file management skills are required, along with Basic Programming Essentials or equivalent knowledge and experience

The above prerequisites are considered to be the basic skills and knowledge needed prior to taking this class. Instructors will assume your readiness for the class materials and will NOT use class time to discuss prerequisite materials.



Course Contents

Create assignment statements (using basic properties of the TextBox, Label, RadioButton, CheckBox, PictureBox, and Button controls) by adding functionality into empty existing event procedure stubs.

- a. Create a Windows application with a Label control and Button controls that use assignment statements and a method to end the application.
- b. Write code that uses the default properties of the TextBox, RadioButton, CheckBox, and PictureBox controls to get input into an application.
- c. Use the help system to look up what action a particular method performs on a specific control.

Use variables, constants, decision making statements, and try/catch blocks by creating event procedures for the Button controls.

- a. Code variables and constants into an application.
- b. Set up error handling in an application through the use of try/catch blocks.
- c. Code decision making statements into an application.
- d. Create an event procedure that is shared among multiple controls.
- e. Use debugging features to observe execution paths, and to observe and change values of variables and properties of controls.

Create methods to eliminate duplicate code in existing event procedures of a given completed application.

- a. Create and call methods without parameters that do not return values.
- b. Create and call methods without parameters that do return values.
- c. Create and call methods with parameters

Apply loop statements, string methods, and basic properties of the ListBox control by creating event procedures for the TextBox and Button controls.

- a. Apply a ListBox control to an application.
- b. Code looping structures into an application.
- c. Alter string values through the use of one or more methods.
- d. Add a TextChanged event procedure for the TextBox control into an application.



Course Contents, continued

Use an array, an enumeration, and basic properties of the ComboBox, ColorDialog, FontDialog, and NumericUpDown controls by creating event procedures for menu controls.

- a. Use arrays to store and retrieve multiple values in an application.
- b. Write code to make use of an enumeration that assigns names to numeric literals.
- c. Use a NumericUpDown control to ensure that the user will input only numeric values into an application.
- d. Add menu controls to provide access to features in the application.
- e. Use FontDialog and ColorDialog controls in an application.
- f. Use a ComboBox control in an application.
- g. Use structs to store multiple values in each element in an array.

Transfer data between a ComboBox control and an outside flat file by using the OpenFileDialog control and creating separate event procedures for the Form control.

- a. Use an OpenFileDialog control in an application to open an outside flat file.
- b. Use the Load event procedure of the Form control to read an outside flat file and load the contents into a ComboBox control.
- c. Use the FormClosing event procedure of the Form control to write the contents of a ComboBox control to an outside flat file.