

## Programming (Object Oriented) in Visual Basic 2005 (VB.NET)

**Descripción:** Este curso de 35 horas es una introducción práctica a la programación en VB.NET, al uso del Visual Studio 2005 y al uso de los servicios proporcionados por .NET. Hace ENFASIS en el lenguaje VB.NET y en cómo construir aplicaciones VB.NET desde una perspectiva de la programación orientada a objetos.

**Audiencia:** Programadores que necesitan iniciarse en el lenguaje VB 2005 (VB.NET) para diseñar y desarrollar en aplicaciones .NET. Es recomendable para quienes quieren en un futuro desean aprender a hacer aplicaciones Web con ASP.NET y VB 2005 o para quienes desean, después, hacer aplicaciones Windows con Windows Forms.

**Prerrequisitos:** Experiencia en Programación en algún lenguaje de alto nivel. Experiencia en programación VB no es esencial.

### Contenido

#### 1.- .NET: WHAT YOU NEED TO KNOW

- .NET: What Is Really Happening
- .NET Programming in a Nutshell
- Viewing the Assembly
- Viewing Intermediate Language
- Understanding .NET
- Visual Studio 2005
- Visual Basic 2005 Express Edition
- Creating a Console Application
- Saving Your Project
- Visual Studio Solutions
- Starter Code
- Using the Visual Studio Text Editor
- IntelliSense
- Build and Run the Project
- Pausing the Output
- Visual Basic and GUI Programs
- .NET Documentation

#### 8.- INHERITANCE

- Inheritance
- Inheritance Hierarchy
- Defining a Derived Class
- .NET's Object Class
- Controlling Base Class Construction
- Derived Class Construction
- Derived Class Constructors
- Need For Protected Access Modifier
- Access Control
- Using Protected Access
- Exceptions
- Defining Custom Exceptions
- Using Custom Exceptions
- Shadowing Base Class Methods
- Polymorphism
- Defining a Method as Overridable
- Overriding a Method
- Using Heterogeneous Collections with Polymorphic Methods
- Abstract Classes
- Not Inheritable Classes
- Type Conversions in Inheritance
- CType

## 2.- FUNDAMENTALS OF VISUAL BASIC PROGRAMMING

- Visual Basic
- Hello, World
- Compiling, Running (Command Line)
- Program Structure
- Namespaces
- Project Imports
- Startup Object
- Naming Standards
- Keywords
- Multiple-File Program Structure
- Using Procedures
- Data Types
- IEEE 754 Floating Point Standard
- Data Type Ranges
- Literals
- Variables
- Initialization of Variables
- Type Checking
- Constants
- Data Conversions
- Operators and Expressions
- Arithmetic Operators
- String Operators
- Relational Operators
- Logical Operators
- Bitwise Operators
- Assignment Operators
- Operator Precedence
- Console I/O
- Console Input
- Console Output
- Placeholders

## 3.- CONTROL STRUCTURES

- Control Structures
- If/Then Statement
- If/Then/Else Statement
- Select Case Statement
- Looping
- Do/Loop Statement
- Exiting Do Loops Prematurely
- While Statement
- For/Next Statement
- Continue Statement

## 4.- PROCEDURES

- Modules
- Subroutines
- ByVal Parameters
- ByRef Parameters
- Functions
- Access, Modules, and Scope
- Scope
- Static Variables
- Overloading
- Optional Parameters
- Variable Length Parameter Lists

## 9.- INTERFACES AND COLLECTIONS

- Components and OO in Visual Basic
- Interfaces
- Interfaces in Visual Basic
- Implementing an Interface
- Using an Interface
- Multiple Interfaces
- Using Multiple Interfaces
- TypeOf ... Is and Dynamic Interfaces
- Interfaces in Visual Basic and COM
- Resolving Ambiguity in Interfaces
- .NET Interfaces
- Arrays of User-Defined Objects
- Implementing IComparable
- Collections
- ArrayList
- ArrayList Methods
- IEnumerable and IEnumerator
- Using Enumerators.
- Collections of User-Defined Objects
- Account Class
- Collection Interfaces
- ICollection
- IList
- Default Properties
- Using the Item Property
- Writing Generic Code
- Using a Class of Object
- Generic Types
- Generic Client Code
- System.Collections.Generic

## 10.- INTRODUCTION TO WINDOWS FORMS

- Windows Forms
- Creating a Windows Forms App
- Aligning Controls
- Setting the Tab Order
- Partial Classes
- Windows Forms Event Handling
- Add Events for a Control
- Events using the Wizard Bar
- Events Documentation
- Closing a Form
- ListBox Control
- Command Line Arguments

## 11.- WINDOWS FORMS CONTROLS

### 5.- ADVANCED DATA TYPES

- Arrays
- Initializing Arrays
- Using UBound
- Multi-Dimensional Arrays
- Arrays are a Reference Type
- Reference Assignment Issues
- Jagged Arrays
- Dynamic Arrays
- Releasing Memory for the Array
- System.Array
- System.Array Functions
- Enumerations
- System.Enum
- System.Enum Functions
- Structures
- With Statement
- Structure Assignment
- Pass-by-Value versus Pass-by-Reference
- Value Types vs. Reference Types
- Value Types vs. Reference Types – Using ByVal with Value Types
- Using ByRef with Value Types
- Using ByVal with Reference Types

### 6.- EXCEPTION HANDLING

- Handling Errors
- Visual Basic Exception Handling
- System.Exception
- Exception Flow of Control
- Handling Multiple Exceptions
- Throwing Exceptions
- Types of Exceptions
- Context and Stack Unwinding
- Exception Handling Strategies
- Fahrenheit/Celsius Version 1
- Fahrenheit/Celsius Version 2
- Fahrenheit/Celsius Version 3
- Fahrenheit/Celsius Version 4
- Inner Exceptions
- Custom Exceptions

- Common Properties
- Common Events
- Event Handling
- Using a Label
- Using Mnemonics
- Using a Text Box
- Using a Button
- Using a Radio Button and Group Box
- Using a Check Box
- Using the ToolTip Control
- Using a ListBox Control
- Adding ListBox Items
- Removing ListBox Items
- Selecting an Item in a List Box
- Using a ComboBox Control
- Flexible Events Handlers
- Timer Control

### 12.- USER INTERFACE FEATURES

- Dialog Boxes
- MessageBox
- Custom Dialogs
- Adding a Custom Dialog
- Using DialogResult
- Displaying a Dialog
- Tab Order and Focus
- Initializing a Custom Dialog
- Changing the Behavior of a Button's DialogResult
- Modeless Dialogs
- Managing the Relationship between Forms
- Programming the Apply and Close Buttons
- Enabling / Disabling the Apply Button
- Common Dialogs
- Using a Common Dialog Control
- Menus
- MenuStrip Control
- Calculator Starter Code
- Attaching a Menu to a Form
- Configuring Items in a Menu
- Testing the Menu
- Responding to Menu Events
- Changing Menu Item Appearance
- Modified SetOperation()
- ContextMenuStrip Control
- Context Menu Events
- Handling Multiple Events

## 7.- OBJECT-ORIENTED PROGRAMMING

- Object-Oriented Programming
- Objects in Software
- Abstraction and Encapsulation
- Classes
- Defining a Class in Visual Basic
- Defining Data Members
- Defining Methods
- Creating Objects
- Using Objects
- Assigning Object References
- Garbage Collection
- Me
- Properties
- Defining Properties
- ReadOnly Properties
- WriteOnly Properties
- Shared Attributes
- Shared Methods and Properties
- Constructors and Initialization
- Defining Constructors
- Default Constructor
- Shared Constructor
- ReadOnly Members
- Constant Members
- Events
- Defining Events
- Restrictions on Event Procedures
- Raising Events
- Trapping Events Using WithEvents
- Trapping Events Dynamically
- ToString in User-Defined Classes

## 13.- DATABASE PROGRAMMING

- ADO.NET
- ADO.NET Architecture
- .NET Data Providers
- Programming with ADO.NET Interfaces
- .NET Namespaces
- Connected Data Access
- ADO.NET Class Libraries
- Connecting to an OLE DB Data Provider
- Using Commands
- Creating a Command Object
- ExecuteNonQuery
- Using a Data Reader
- Disconnected Datasets
- Data Adapters
- Data Bound Controls
- DataGridView Control
- Performing a Query

### Notas:

- \* Este curso es parte de nuestro Diplomado Web Programming with VB 2005 & ASP.NET 2005.
- \* El curso utiliza .NET 2.0
- \* El curso incluye tópicos de Windows Forms y ADO.NET suficientes para aprender lo básico de estos temas pero se centra más que nada en el lenguaje VB.NET ya que hay otros cursos mpás completos de Windows Forms y ADO.NET.

### Duración aproximada:

35 horas

### Lugar:

Altadena 26. Col. Nápoles, México, D .F.

### Incluye:

Material de los cursos, mochila, estacionamiento y servicio de cafetería.

### Nota:

El material que se entrega está en inglés técnico.

### **Formas y condiciones de pago:**

Para la inscripción, aplicación de los descuentos y aseguramiento de que el diplomado se impartirá en las fechas pactadas se requiere el pago anticipado 2 semanas antes de la fecha de inicio con depósito o transferencia bancaria a la siguiente cuenta:

- ❖ Depósito en Banamex cuenta 4923239 Suc. 575 a nombre de Desarrollo y Capacitación en Internet, S. A. de C. V. (CLABE en caso de transferencia electrónica vía Internet 002180057549232394)
- ❖ O cheque a nombre de Desarrollo y Capacitación en Internet, S. A. de C. V.

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