.NET Programming using C# and Visual Studio 2010

## Course Objective

This training course teaches attendees the object-oriented development and C# language skills they need to successfully develop elegant, efficient C# code.

## Duration

3 Days

## Prerequisite

Prior full-time programming experience

## Course Contents

* ~~Getting Started with .NET~~
  + ~~Using Visual Studio 2010~~
  + ~~Debugging Your Code and Handling Exceptions~~
* ~~Data Types and Variables~~
  + ~~Introducing Variables and Data Types~~
  + ~~Working with Variables and Data Types~~
* ~~Using the .NET Framework~~
  + ~~Using the .NET Framework Classes~~
  + ~~Working with Strings~~
  + ~~Working with Dates and Times~~
  + ~~The My Namespace~~
* ~~Branching and Flow Control~~
  + ~~Conditional Branching~~
  + ~~Repeating Code Blocks~~
  + ~~Unconditional Branching~~
* ~~Classes and Objects~~
  + ~~Introducing Classes and Objects~~
  + ~~Creating Your Own Classes~~
  + ~~Working with Classes~~
* ~~Properties and Methods~~
  + ~~Working with Properties~~
  + ~~Working with Methods~~
* ~~Object-Oriented Techniques~~
  + ~~Inheritance~~
  + ~~Interfaces~~
  + ~~Organizing Classes~~
* ~~Working with Arrays~~
  + ~~Introducing Arrays~~
  + ~~Manipulating Arrays~~
* ~~Delegates and Events~~
  + ~~Motivating Delegates~~
  + ~~Introducing Delegates~~
  + ~~Working with Events~~
* Generics
  + Introduction Generics
  + Generics and Arrays
  + Generic Interfaces
  + Generic Constraints
  + Generics and Lists
* Handling Exceptions
  + Perspectives and Exception Handling
  + Getting Started with Exception Handling
  + Catching Specific Exceptions
  + Raising Errors
  + Running Code Unconditionally
  + Creating Exception Classes
* Collection Classes
  + Generics, Collections, and Interfaces
  + The Generic List
  + Working with Dictionaries, Stacks, and Queues
  + Creating Your Own Generic Collection Classes
* Advanced Language Concepts
  + The Role of Implicitly Typed Local Variables
  + The Role of Extension Methods
  + Object Initialization Syntax
  + The Role of Anonymous Types
  + The Role of Lambda Expressions
* LINQ
  + Language Integrated Query
  + LINQ Syntax
  + LINQ to XML
* Serialization
  + Concept of Serialization
  + Serialization of Built-In Objects
  + BinaryFormatter and SoapFormatter Classes.
  + Serialize User-Defined Objects
  + Serialization Formatters
* Handling Versioning Issues
  + CLR Locates Assemblies
  + CLR Enforces Versioning
  + Strong Name an Assembly
  + Private and Shared Assemblies
  + Techniques of Sharing Assemblies
* Creating Windows Services
  + Windows Service
  + FileSystemWatcher Class
  + Debug Windows Service Applications
* Reading and Writing XML Using the XML DOM
  + Reading and Writing XML, Programmatically
  + Important Classes in the System.XML Namespace
  + Read and Write XML Nodes and Attributes
* Expert XML
  + Contents of an XML Document
  + Write an XML Document
  + Query using XPath Expressions
* Attributes and Reflection
  + Built-In Attributes
  + Custom Attributes
  + Use Reflection to take Advantage of Attributes
  + Reflection's Capabilities