

**Price:** R6,400.00 excl. VAT  
**Duration:** 5 days  
**Code:** CSHRP

## C# Programming

### Description

The C# Programming course covers the C# language syntax, OO basics, classes, interfaces, and the .NET environment. C# was designed exclusively for the .NET framework, so it is the preferred .NET language for many developers.

### Objectives

Delegates who complete the C# Programming course will be able to:

- Write C# console programs.
- Understand and debug C# programs.
- Understand the principles of the .NET framework and the Common Language Runtime.

### Intended Audience

Programmers who want to develop applications for either the .NET or MONO framework.  
Web application developers who want to develop .NET web applications should attend this course before attending the ASP.NET Development course.

### Prerequisites

Previous programming experience is essential. Knowledge of C/C++ or Java will be beneficial.

### Course Contents

*The lecturer reserves the right to modify the contents of the course to suit the needs of the delegates.*

**.NET Framework Fundamentals** • .NET Framework SDK. • Principles. • Prerequisites and installation. • MSIL - Microsoft Intermediate Language. • CTS - Common Type System. • Assemblies and the GAC - Global Assembly Cache. • BCL - Base Class Library. • Reflection. • .NET languages. • JIT - Just In Time compilation. • Features and benefits. • Other implementations - GNU, Mono.

**Getting Started with C#** • Command line compilation. • Hello World program. • Comments. • The Main() function. • Console I/O. • Using elements in the Base Class Library. • Example assemblies and modules. • Visual Studio.NET. • Solutions and Projects. • Toolbox, Property Explorer and Solution Explorer. • Debugging.

**C# Language Syntax** • Program structure. • Iteration and selection statements. • Tokens. • Literals. • Namespaces. • Variables. • Scope. • Classes. • Keywords. • Expressions. • and value types. • Embedded documentation. • Exception handling. • Attributes.

**Classes and Structs** • Principles. • Classes. • Methods and Properties. • Constructors. • Encapsulation. • Polymorphism. • Abstraction. • Indexers. • Delegates. • Regular expressions. • Finalize method.

**Windows Forms** • Forms and GDI+ classes. • Creating forms. • Controls. • Properties. • Events. • Menus. • Dialog forms. • Visual inheritance. • Listview and Treeview. • Dynamic controls and events.

**Base Class Library** • Network Programming. • File I/O. • ADO.NET Database programming. • Remoting. • SOAP. • XML. • Collections. • Win32 API access. • ASP.NET. • Web Services. • COM Interop.