C# For Developers

C# is an object oriented programming language developed by Microsoft that enables developers to quickly build a wide range of applications for the .NET platform. For the C# For Developers course from LearnKey, some programming experience will be helpful but none is assumed. Expert instructor Jesse Liberty begins with a solid introduction to programming methods, shows you how to build applications and continues with advanced topics like class libraries, threading streams and interoperations with COM. At the conclusion of this course, you will understand how to build Windows and Web applications on .NET using C#.

Jesse Liberty

Jesse Liberty is president of Liberty Associates, Inc., a programming and consulting firm specializing in custom .NET development. Liberty is the author of Programming C# and Programming ASP.NET (both O’Reilly & Associates). He is also the Series Editor of the Jesse Liberty's Programming From Scratch series, and author of the international best seller Teach Yourself C++ In 21 Days. He has written over a dozen books on web applications development and object oriented programming and has built on his experience delivering real-world applications for Fortune-100 companies and teaching thousands of programmers nationwide.

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Session 1
Section A: C# & .NET
- Introduction
- The .NET PLATFORM
- .NET Features
- .NET Process

Section B: C# Example
- Getting Started
- Set Text
- Set Up Button
- View Event Handler
- Build & Run
- C# Basic Components
- Classes, Objects, Types
- Methods

Section C: Console Apps
- Using Comments
- Console Object
- Name Spaces
- Dot Operator
- Create Console App with Notepad
- Compile & Run
- Visual Studio Console App
- Build & Run

Section D: Variable & Constants
- Declarations
- Replaceable Parameter
- Variable Assignment
- Constants
- Set Variable
- Variable Usage
- Set Enum Variable

Section E: Types, Expressions & White Space
- Types
- String
- Identifiers
- Statements & Expressions
- White Space

Session 2
Section A: Classes & Constructor
- Overview
- Access Modifiers
- Methods of a Class

Section B: Static Methods & Destroying Objects
- Static Methods
- Static Members
- Using Static Member
- Destroying Objects

Section C: Member Variables & Properties
- Types
- Stack & Heap
- Passing Parameters
- Pass by Reference
- Return Multiple Values
- Out Keyword
- Properties
- Using Get & Set

Session 3
Section A: Interfaces
- Overview
- Default Constructor
- Class Variables
- Using Class
- Add Member Variable
- Add Constructors
- Review & Run

Section B: Static Methods & Destroying Objects
- Static Methods
- Static Members
- Using Static Member
- Destroying Objects

Section C: Member Variables & Properties
- Types
- Stack & Heap
- Passing Parameters
- Pass by Reference
- Return Multiple Values
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Session 4
Section A: IComparable
- Array Lists
- Implement IComparable
- Custom Comparison
- Custom IComparable
- Runtime, Sort Choice
- Create Custom Compare

Section B: Collection Classes
- Overview
- Queues
- Using Queue Class
- Stacks
- Using Stack Class
- Stacks to Arrays
- Dictionary & Hashable
- Using Hashable

Section D: Exception
- Overview
- Try-Catch & Finally
- Throw On Exception
- Using with Try-Catch Block
- Special Exception Handler
- Finally Block
- Using Help & Stack Trace

Section F: Delegates
- Overview
- Delegating Methods
- Implementing Delegate
- Delegates as Parameters
- Step-Through Delegated Function
- Use Delegate to Invoke Method
- Static Delegates
- Delegates as Properties

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Continued on reverse side.
### Session 5

**Section A: Multicast Delegates**
- Overview
- Using Multicast
- Invoke Multiple Methods

**Section B: Events**
- Implementing Events
- Sample Event Program
- Event Handling
- Event Notification
- Run Program
- Register Delegate to Event
- Create Event Args Instance
- Fire New Event

**Section C: Windows Applications**
- Windows vs. Web Apps
- Basic Windows Form
- Hand Coding Windows App
- Save, Compiler
- Use Visual Studio.Net
- Modify Application

**Section D: Windows Forms**
- Create New Project
- Checkbox
- Radio Buttons
- Event Button
- Output Label
- Checklist Box
- Additional Controls
- View Code & Run

**Section E: XML Comments**
- Overview
- Create XML Documentation
- Using XML Comments

**Section F: Reflections**
- Overview
- Create Attribute
- Named Attributes
- ILDSM

**Section G: ADO.NET Objects**
- Object Model
- Data Objects
- Create ADO Application
- Using OleDbDataAdapter
- Populate ListBox from Database
- Using OleDbDataReader

**Section H: Data Relationships**
- Use DataGrid in ADO Application
- Setup Connection Object
- Setup Command Object & Data Adapter
- Populate DataGrid & Test Application
- Data Relationship
- Add Additional Tables to DataGrid
- Data Relation Object
- Test & Debug ADO Application
- Using Debug Tools
- Using ADO Application

**Section I: Updates**
- Overview
- Populate ListBox & DropDown Menu

### Session 6

**Section A: ADO.NET Objects**
- Object Model
- Data Objects
- Create ADO Application
- Using OleDbDataAdapter
- Populate ListBox from Database
- Using OleDbDataReader

**Section B: Data Relationships**
- Use DataGrid in ADO Application
- Setup Connection Object
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- Add Additional Tables to DataGrid
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- Using ADO Application

**Section C: Updates**
- Overview
- Populate ListBox & DropDown Menu

### Session 7

**Section A: Concurrency**
- Overview
-:System
- Params for Concurrency
- ADO.NET with Concurrency
- Command Builder

**Section B: Web Forms**
- Overview
- Web Forms Diagram
- Web Forms Support State
- Create ASP.NET Web App
- Add Label & Button
- Add Button
- Run Web App
- Controls
- ASP.NET Events
- Create DataGrid
- Bind DataGrid
- Customize DataGrid Controls
- Create New Method
- Create DataRow View
- Extract DataItem
- Modify DataCell by Event Handling

**Section C: Attributes**
- Overview
- Attribute Targets
- Using Targets
- Using Attributes
- Create Attribute
- Named Attributes
- ILDSM

**Section D: Reflections**
- Overview
- Create Array of Attributes
- Use Discovery Process
- LateBinding

**Section E: Threading**
- Multithreading Support
- Time Splicing
- Create Implicit Threads
- Joining Threads
- Killing Threads
- Sleep
- Join Threads
- Abort Thread

### Session 8

**Section A: Synchronization**
- Overview
- Concurrency Issues
- Interlocked Increment
- Lock
- Threading Problems

**Section B: Streaming Data**
- Overview
- ExploreDirectory
- Read & Write Streams
- Buffered Stream
- StreamReader & StreamWriter

**Section C: Asynch I/O**
- Overview
- AsynchCallback Delegate
- Test Constructor
- Buffers & Tokens
- Buffering at Work
- HTTP Web Request
- Web Streaming Objects
- Read Page from Web

**Section D: Network I/O**
- Overview
- Network Streaming
- Sockets & Ports
- Support Network I/O
- Server Side
- Client Side
- Server & Client Interaction
- Asynch Network I/O
- Client Handler
- Asynch Read & Write
- Send Text String
- Asynch File Read
- Asynch File Streaming

**Section E: Serialization**
- Overview
- Binary Serialization
- Serialize to Disk
- Deserialzie
- Nonserialized Option

**Section F: ActiveX**
- Overview
- Create ActiveX Control
- Create VB Project
- ActiveX Event Handler
- Import into .NET
- Add Control to Toolbox
- Create .NET Project

Total Time: **90 Minutes**