

## **Course 2349: Programming with the Microsoft .NET Framework (Microsoft C# .NET)**

### **Module 1: Overview of the Microsoft .NET Framework**

- Overview of the Microsoft .NET Framework
- Overview of Namespaces

### **Module 2: Introduction to a Managed Execution Environment**

- Writing a .NET Application
- Compiling and Running a .NET Application
- Creating simple console applications in C#.
- Explaining how code is compiled and executed in a managed execution environment.
- Explaining the concept of garbage collection.

### **Module 3: Working with Components**

- An Introduction to Key .NET Framework Development Technologies
- Creating a Simple .NET Framework Component
- Creating a Simple Console Client
- Creating an ASP.NET Client

### **Module 4: Deployment and Versioning**

- Introduction to Application Deployment
- Application Deployment Scenarios
- Related Topics and Tools

### **Module 5: Common Type System**

- An Introduction to the Common Type System
- Elements of the Common Type System
- Object-Oriented Characteristics

### **Module 6: Working with Types**

- **System.Object** Class Functionality
- Specialized Constructors
- Type Operations
- Interfaces
- Managing External Types

### **Module 7: Strings, Arrays, and Collections**

- Strings
- Terminology - Collections
- .NET Framework Arrays
- .NET Framework Collections

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### **Module 8: Delegates and Events**

- Delegates
- Multicast Delegates
- Events
- When to Use Delegates, Events, and Interfaces

### **Module 9: Memory and resource Management**

- Memory Management Basics
- Non-Memory Resource Management
- Implicit Resource Management
- Explicit Resource Management
- Optimizing Garbage Collection

### **Module 10: Data Streams and Files**

- Streams
- Readers and Writers
- Basic File I/O

### **Module 11: Internet Access**

- Internet Application Scenarios
- The WebRequest and WebResponse Model
- Application Protocols
- Handling Errors
- Security
- Best Practices

### **Module 12: Serialization**

- Serialization Scenarios
- Serialization Attributes
- Object Graph
- Serialization Process
- Serialization Example
- Deserialization Example
- Custom Serialization
- Custom Serialization Example
- Security Issues

### **Module 13: Remoting and XML Web Services**

- Remoting
- Remoting Configuration Files
- XML Web Services