

uCertify

Course Outline

**C# 14 and .NET 10 – Modern Cross-Platform
Development Fundamentals**



16 May 2026

1. Exercises, Quizzes, Flashcards & Glossary

Number of Questions

2. Expert Instructor-Led Training

3. ADA Compliant & JAWS Compatible Platform

4. State of the Art Educator Tools

5. Award Winning Learning Platform (LMS)

6. Chapter & Lessons

Syllabus

Chapter 1: Introduction

Chapter 2: Hello, C#! Welcome, .NET!

Chapter 3: Speaking C#

Chapter 4: Controlling Flow, Converting Types, and Handling Exceptions

Chapter 5: Writing, Debugging, and Testing Functions

Chapter 6: Building Your Own Types with Object-Oriented Programming

Chapter 7: Implementing Interfaces and Inheriting Classes

Chapter 8: Packaging and Distributing .NET Types

Chapter 9: Working with Common .NET Types

Chapter 10: Working with Files, Streams, and Serialization

Chapter 11: Working with Data Using Entity Framework Core

Chapter 12: Querying and Manipulating Data Using LINQ

Chapter 13: Introducing Modern Web Development Using .NET

Chapter 14: Building Websites Using ASP.NET Core

Chapter 15: Building Interactive Web Components Using Blazor

Chapter 16: Building and Consuming Web Services

Videos and How To

7. Live labs

Lab Tasks

Here's what you get

1. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.

30
EXERCISES

2. Quiz

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.

150
QUIZ

3. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.

120
FLASHCARDS

4. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.



5. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

6. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

7. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

8. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**

1. Best Postsecondary Learning Solution

- **2015**

1. Best Education Solution
2. Best Virtual Learning Solution
3. Best Student Assessment Solution
4. Best Postsecondary Learning Solution
5. Best Career and Workforce Readiness Solution
6. Best Instructional Solution in Other Curriculum Areas
7. Best Corporate Learning/Workforce Development Solution

- **2016**

1. Best Virtual Learning Solution
2. Best Education Cloud-based Solution
3. Best College and Career Readiness Solution
4. Best Corporate / Workforce Learning Solution
5. Best Postsecondary Learning Content Solution

6. Best Postsecondary LMS or Learning Platform
7. Best Learning Relationship Management Solution

- **2017**

1. Best Overall Education Solution
2. Best Student Assessment Solution
3. Best Corporate/Workforce Learning Solution
4. Best Higher Education LMS or Learning Platform

- **2018**

1. Best Higher Education LMS or Learning Platform
2. Best Instructional Solution in Other Curriculum Areas
3. Best Learning Relationship Management Solution

- **2019**

1. Best Virtual Learning Solution
2. Best Content Authoring Development or Curation Solution
3. Best Higher Education Learning Management Solution (LMS)

- **2020**

1. Best College and Career Readiness Solution
2. Best Cross-Curricular Solution
3. Best Virtual Learning Solution

9. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Introduction

- Who this course is for
- What this course covers
- To get the most out of this course

Chapter 2: Hello, C#! Welcome, .NET!

- Introducing this course and its contents
- Setting up your development environment
- Understanding .NET
- Building console apps and managing multiple projects in a solution
- Making good use of the GitHub repository for this course
- Running a C# code file without a project file
- Looking for help
- Practicing and exploring
- Summary

Chapter 3: Speaking C#

- Introducing the C# language
- Discovering your C# compiler version
- Understanding C# grammar and vocabulary
- Working with variables
- Exploring more about console apps
- Practicing and exploring
- Summary

Chapter 4: Controlling Flow, Converting Types, and Handling Exceptions

- Operating on variables
- Understanding selection statements
- Understanding iteration statements
- Storing multiple values in an array
- Casting and converting between types
- Handling exceptions
- Checking for overflow
- Practicing and exploring
- Summary

Chapter 5: Writing, Debugging, and Testing Functions

- Writing functions
- Debugging during development
- Hot reloading during development
- Unit testing
- Throwing and catching exceptions in functions
- Practicing and exploring
- Summary

Chapter 6: Building Your Own Types with Object-Oriented Programming

- Talking about OOP
- Building class libraries
- Storing data in fields
- Working with methods and tuples
- Controlling access with properties and indexers
- Pattern matching with objects
- Working with record types

- Practicing and exploring
- Summary

Chapter 7: Implementing Interfaces and Inheriting Classes

- Setting up a class library and console app
- Static methods and overloading operators
- Making types safely reusable with generics
- Raising and handling events
- Implementing interfaces
- Working with null values
- Inheriting from classes
- Casting within inheritance hierarchies
- Inheriting and extending .NET types
- Practicing and exploring
- Summary

Chapter 8: Packaging and Distributing .NET Types

- The road to .NET 10
- Understanding .NET components

- Publishing your code for deployment
- Native ahead-of-time compilation
- Packaging your libraries for NuGet distribution
- Practicing and exploring
- Summary

Chapter 9: Working with Common .NET Types

- Working with numbers
- Working with text
- Pattern matching with regular expressions
- Storing multiple objects in collections
- Practicing and exploring
- Summary

Chapter 10: Working with Files, Streams, and Serialization

- Managing a filesystem
- Reading and writing with streams
- Encoding and decoding text

- Serializing object graphs
- Practicing and exploring
- Summary

Chapter 11: Working with Data Using Entity Framework Core

- Understanding modern databases
- Setting up EF Core in a .NET project
- Defining EF Core models
- Querying EF Core models
- Practicing and exploring
- Summary

Chapter 12: Querying and Manipulating Data Using LINQ

- Writing LINQ expressions
- LINQ in practice
- Sorting and more
- Using LINQ with EF Core
- Joining, grouping, and lookups
- Practicing and exploring

- Summary

Chapter 13: Introducing Modern Web Development Using .NET

- Understanding ASP.NET Core
- Structuring projects
- Building an entity model for use in the rest of the course
- Practicing and exploring
- Summary

Chapter 14: Building Websites Using ASP.NET Core

- Exploring ASP.NET Core
- History of Blazor
- Exploring Blazor static SSR
- Using EF Core with ASP.NET Core
- Practicing and exploring
- Summary

Chapter 15: Building Interactive Web Components Using Blazor

- Reviewing the Blazor Web App project template

- Building components using Blazor
- Defining forms using the EditForm component
- Practicing and exploring
- Summary

Chapter 16: Building and Consuming Web Services

- Building web services using ASP.NET Core
- Creating a web service for the Northwind database
- Documenting and trying out web services
- Consuming web services using HTTP clients
- Practicing and exploring
- Summary

10. Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations
- Access to the latest industry technologies
- Available anytime, anywhere on any device

- Break and Reset functionality
- No hardware costs

Lab Tasks

Hello, C#! Welcome, .NET!

- Building and Running a .NET Console Application

Speaking C#

- Using Variables
- Using the default() Operator
- Using the sizeof() Operator

Controlling Flow, Converting Types, and Handling Exceptions

- Using Operators
- Using the while Loop
- Using the do-while Loop

Writing, Debugging, and Testing Functions

- Creating a Function
- Using the return Keyword
- Applying a Mutually Exclusive Lock within a Function

Building Your Own Types with Object-Oriented Programming

- Using the Access Modifiers
- Creating a Class
- Using enum

Implementing Interfaces and Inheriting Classes

- Using Events
- Using Polymorphism
- Creating an Abstract Class

Packaging and Distributing .NET Types

- Publishing a Console Application

Working with Common .NET Types

- Using the Split() method
- Checking the Content of a String
- Using Dictionaries

Working with Files, Streams, and Serialization

- Using the BinaryWriter Class
- Using a StreamWriter Class
- Implementing Object Serialization

Working with Data Using Entity Framework Core

- Creating and Managing a Database
- Setting up the dotnet-ef Tool

Querying and Manipulating Data Using LINQ

- Using LINQ Queries
- Using the UNION Operator
- Using the LINQ OrderBy Operator
- Using LINQ to XML

Introducing Modern Web Development Using .NET

- Exploring Blazor Static SSR

Building Websites Using ASP.NET Core

- Connecting to a Database in Visual Studio

Building Interactive Web Components Using Blazor

- Creating a Link
- Using Blazor for Web Development
- Creating a Form using EditForm in Blazor

Building and Consuming Web Services

- Creating a Web Service

Here's what you get

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LIVE LABS

35

VIDEO TUTORIALS

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MINUTES

You can't stay away! Get

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