

Backend Development with C#

Duration:

3 months

Starting Date:

Available Now

Price:

PKR. 3,000

MEET YOUR INSTRUCTOR

Dr. Muhammad Hamid is an Assistant Professor at GC Women University, Sialkot. He has 12+ years of teaching and research experience in Artificial Intelligence and Software Engineering. He has also published 30+ research papers and worked on projects in Canada during his Ph.D. His interests include AI, Software Engineering, and Intelligent Diagnosis.



Course Outline

MODULE	LEARNING OUTCOMES
Welcome to Backend Development	Welcome to the course on Backend Development with C#! In this module you will learn what backend development is, who this course is designed for, what topics it covers, and how it will benefit your career.
Introduction to C# and .NET	This module introduces C# and the .NET framework. You will learn the basics of C# programming, project setup, and why .NET is widely used for backend systems and enterprise applications.
C# Fundamentals for Backend	This module covers the core of C#: data types, operators, control structures, and methods. You will gain the foundational knowledge needed to build backend logic using C#.
Object-Oriented Programming in C#	This module introduces OOP concepts such as classes, objects, inheritance, polymorphism, and encapsulation. You will apply these principles to design structured and reusable backend code.
Building APIs with ASP.NET Core	This module guides you in creating RESTful APIs using ASP.NET Core. You will learn about controllers, routing, and returning data, enabling communication between backend and frontend.
Authentication and Security	This module introduces security in backend systems. You will learn about authentication, authorization, token-based security (JWT), and best practices for securing APIs and databases.
Advanced C# Features	This module covers advanced C# concepts including LINQ, asynchronous programming with async/await, and dependency injection, improving the efficiency and scalability of backend code.

Testing and Debugging

This module focuses on testing and debugging backend applications. You will learn to use unit tests, handle exceptions, and debug effectively to ensure reliable backend systems.

Deployment and Hosting

This module explains how to deploy C# backend applications. You will learn about IIS, Docker, and cloud platforms like Azure, making your backend accessible to real users.

Capstone Project & Certification

The final module allows you to apply everything learned. You will build a complete backend system, connect it with a database, deploy it, and earn your course completion certificate.

