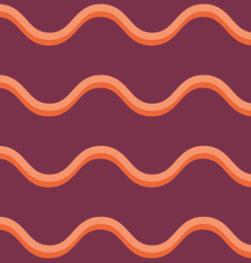


# Full Stack C#.NET Syllabus

GRANDCIRCUS



**Grand Circus's Full Stack C# .NET Bootcamp takes you from coding novice to programming powerhouse in 14 weeks. The .NET programming framework is popular for enterprise development and heavily integrated with C#. In this bootcamp, we pair .NET and C# with Angular, a popular platform for developing user interfaces. By the end of this course, you'll be ready for an entry-level position as a full stack developer. But Grand Circus doesn't just teach coding skills. We understand how challenging a career shift can be. We'll help you prepare for your job search with interview prep, resume reviews, and one-on-one career training. Along the way, you'll build connections with encouraging instructors, alumni mentors, and affinity groups.**

# Curriculum

## Discovering Coding Fundamentals

We've designed Grand Circus bootcamps for true beginners. In the initial units, you'll discover the fundamentals of coding with C# and learn to use Visual Studio, the standard development environment for C# and .NET coding languages. As you continue filling your C# toolbox, you'll learn to manipulate data in console applications. We'll also introduce best practices for writing good code and give you hands-on experience with pair programming. In coding, as in life, we make lots of mistakes. Version control (using Git/GitHub) tracks changes you make to code and helps you recover from mistakes. With GitHub, you'll also be able to collaborate with a team and share your code with other developers.

### Core Skills

- C#
- Visual Studio
- Console applications
- Core coding concepts like loops, conditionals, data types, and methods
- Debugging and Logging

## Learn .NET and Advanced Concepts

Once you've covered the basics with C#, it's time to expand on that. Learn about .NET, object-oriented programming, and advanced concepts like inheritance, abstract classes, and data structures. (Not to worry -- by the time you get through this, you'll know what those are!) We'll teach you to write maintainable code and you'll build customized objects in a large group project. These skills will set you up to move from console applications to web applications

### Core Skills

- .NET
- NuGet Package Manager
- File I/O
- Algorithms
- Data Structures
- Test-Driven Development (TDD)

## Work with Data & Develop backend Technologies

A large part of working in .NET is storing and manipulating data. SQL allows you to do that in a big way. Learn to store and access data in a SQL server. We'll also dive into the backend of web applications using the ASP.NET framework. Create web applications and learn to hook up SQL databases to your applications.

### Core Skills

- Structured Query Language (SQL)
- SQLServer Management Studio, Microsoft SQL Server, and Azure Data Studio
- ASP.NET and MVC
- Web Application Architecture
- APIs & JSON

## Build Frontends for Interactive Web Apps

Once you've built a strong foundation in back-end development, we'll turn to the frontend to make accessible, robust, and dynamic web pages. In this section, you cover the building blocks of web development: HTML and CSS. Learn to make websites interactive with JavaScript and expand the possibilities for interaction with TypeScript. Create responsive sites with Bootstrap. You'll also learn about Angular, a powerful front-end framework that builds on basic web development tools. Angular helps you create code that is more readable, maintainable, and modular. We'll focus on creating single-page applications (SPAs) that connect to our C# .NET backend. And finally, tackle cloud hosting, user logins, and continuous integration (CI).

### Core Skills

- HTML and CSS
- JavaScript and TypeScript
- Bootstrap
- Document Object Model (DOM)
- Angular
- Single-Page Applications (SPAs)
- Security and User Logins
- Continuous Integration/Continuous Deployment (CI/CD)

## Create a Portfolio Project

The crowning jewel in your Grand Circus bootcamp experience is your final project. By the end of bootcamp, you'll have a portfolio project that you can share with hiring managers and the skills to describe your work. Following an Agile software development process, you'll work in a group to create a web application using the skills you developed. During your project, you get real-world experience not only with the technical aspects of building an application but with the career skills required to collaborate with a team.

### Core Skills

- Agile software development
- Collaboration
- Maintaining a codebase
- Reviewing and documenting code