Microsoft
.NET

.NET Core

DEV ACCELERATOR COURSE PACKET

CODING
DOJO

.NET CORE

CURRICULUM

4 weeks

40-60 hours/week

In this 4 week course, we'll provide you the mentorship and curriculum to allow you to master C# and .NET Core – making you one of the first experts of this new technology. This course covers the core elements of the .NET Core stack, plus a variety of third-party elements needed to create powerful cross-platform web solutions. These technologies include C#, ASP.NET Core, Entity Framework Core, MySQL, Dapper, NancyFx and many more.

Companies using .NET:

PREREQUISITES*

• Personal laptop to work on during the program
• Fluent in another MVC/OOP stack
• At least 1 year of industry work experience (preferred)
• Basic Algorithm Knowledge
• Comfortable with HTML
• Familiarity with installation of applications on Mac/Windows/Linux

*Please note that this course is intended for experienced software developers.

SCHEDULE*

	TECHNOLOGIES	TOPICS COVERED	
Week 1	.NET Core C# LINQ MySQL	Static Types and Collections OOP & Inheritance Lambda Functions Async SQL Queries	
Week 2	NancyFX API Azure Deployment	Semi-Restful Routing Error Handling MVC Framework Design Patterns Password Encryption	
Week 3	ASP.NET Core Razor View Engine Dapper Entity Framework Core Microsoft Cognitive Services	Web Security Basics Tag Helpers Creating an API Object Relational Mappers Dependency Injection	
Week 4	**PROJECT WEEK** Assigned or Individual Project Redis Development Environments Scalability Security	**OPTIONAL TOPICS** InMemory Caching Microsoft Identity Amazon Deployment	

* Weekly content subject to change depending on student's pace.

.NET CORE

.NET & C# BASICS

Intro to .NET Fundamentals

- Intro to Compiled Languages & Runtimes
- What is C# .NET?
- How to Install Visual Studio
- How to Install ASP.NET Core
- Working with C#.NET & Console
- Features of Visual Studio Code

C# FUNDAMENTALS

Intro to C#

- Variables & Writing to Console
- Conditionals & Operators
- For Loops, While Loops, & Arrays
- Array Manipulation
- List Creation & Manipulation
- How to Use Dictionaries in C#
- Constructing Functions in C#
- Classes, Methods, & Inheritance
- Advanced OOP Concepts in C#
- LINQ, Async
- SQL Review

NANCYFX

Intro to NancyFX

- Getting Started with NancyFX
- Using Dotnet Watcher
- Routing with Nancy
- Serving Static Pages
- Displaying Errors
- Super Simple View Engine
- Using Sessions in Nancy
- Azure Deployment
- Backend API Calls
- Connecting Nancy to Your Database
- Encryption

ASP.NET CORE

Intro to ASP.NET Core

- How to Setup ASP.NET Core MVC
- Controllers, Routing, & Serving Views
- Using Razor View Engine
- Redirecting
- Sessions & TempData
- Intro to Yeoman
- Models & Validation
- Database Connection with Dapper
- Configuration & Encryption
- Working with Dapper Relationships
- Deploying with a Database
- Tag Helpers & Partials
- Ajax with ASP.NET Core MVC
- Microsoft Cognitive Services

ENTITY FRAMEWORK CORE (EF CORE)

Intro to Object Relational Mapper

- Using Console with EF Core
- Querying & Connecting to the Database
- ViewModels in EF Core
- Relationships
- Deployment with EF Core

OPTIONAL TOPICS

- ASP.NET on Amazon EC2
- Enabling Identity
- Postgres & EF Migrations
- In-Memory Caching
- Intro to Redis

*Optional topics available

ADMISSIONS PROCESS

1. APPLICATION

Prospective students must first submit an admissions application. This is a brief application form where you'll share your background, submit your resume, and provide contact information. Based off your application, our admissions team will verify that you're qualified for the program, which is designed specifically for experienced developers. An admissions decision will be made within 3-5 business days.

2. TECHNICAL INTERVIEW

The second step is your technical interview. We'll ask you questions about your background and understanding of core programming concepts.

3. ACCEPTANCE LETTER

If selected to attend, you will receive an acceptance letter through email and a link to submit your safety deposit, which will reserve your seat in the Coding Dojo program. You will also receive instructions concerning the required preparation for your upcoming program.

4. SAFETY DEPOSIT

Due to limited seats and high demand, you must first submit your safety deposit to reserve your seat and access the pre-course materials.