



## .NET - Full Stack v2.1

	MON	TUE	WED	THU	FRI	ENVIRONMENT
<b>Week 1</b> <b>Core C#</b>	<ul style="list-style-type: none"> <li>Setup - Code Editor</li> <li>Setup - Version Control</li> <li>Setup - .NET SDK</li> <li>.NET Platform - .NET Standard, ASP.NET, XAMARIN, UWP</li> <li>Workspace - Windows</li> <li>First Program - Overview</li> <li>Program Structure - Keywords</li> <li>Source Control Management</li> <li>Architectural Components</li> <li>Week 1 Hackerrank Activity</li> </ul>	<ul style="list-style-type: none"> <li>.NET Solution - Namespace</li> <li>.NET Solution - Project</li> <li>.NET Solution - Assembly</li> <li>.NET Platform - Runtime</li> <li>Collections</li> <li>Garbage Collector</li> <li>Type System</li> <li>Compilation Process - CLR</li> </ul>	<ul style="list-style-type: none"> <li>Type - Conversion</li> <li>Modifier - Abstract</li> <li>Modifier - Const</li> <li>Modifier - Override</li> <li>Modifier - Readonly</li> <li>Modifier - Static</li> <li>Modifier - Virtual</li> <li>Object-Oriented Programming</li> <li>Access Modifiers</li> <li>Casting</li> </ul>	<ul style="list-style-type: none"> <li>Code Structure - Unit Testing</li> <li>Collection - Generic</li> <li>Type - Action</li> <li>Type - Function</li> <li>Type - Delegate</li> <li>Type - Event</li> <li>Serialization</li> <li>Exception Handling</li> <li>Test Driven Development</li> </ul>	<ul style="list-style-type: none"> <li>Runtime - Debugging</li> <li>Runtime - Breakpoint</li> <li>Design Pattern - Singleton</li> <li>Design Pattern - Factory</li> <li>Semantic Code - Comments</li> <li>Semantic Code - XML Comments</li> <li>S.O.L.I.D. Principles</li> <li>Dependency Injection</li> <li>Logging</li> </ul>	<ul style="list-style-type: none"> <li>xUnit [2.x]</li> <li>Visual Studio Code [1.x]</li> <li>Git [2.x]</li> <li>Serilog [2.x]</li> <li>.NET Core [3.x]</li> </ul>
<b>Week 2</b> <b>SQL</b>	<ul style="list-style-type: none"> <li>Data Access - ORM</li> <li>Data Access - Data First Approach</li> <li>Data Model - Entity</li> <li>Data Model - Relationship</li> <li>Data Model - Seeding</li> <li>Data Query - Eager Loading</li> <li>Data Query - Lazy Loading</li> <li>Quality Control Audit</li> <li>Technical Assessment</li> <li>Week 2 Hackerrank Activity</li> </ul>	<ul style="list-style-type: none"> <li>Setup - Data Editor</li> <li>Data Structure - Normalization</li> <li>Data Structure - Multiplicity</li> <li>Data Structure - DML</li> <li>Data Structure - DDL</li> <li>Design Pattern - Repository</li> <li>Type - LINQ</li> <li>Data Structure - Check Constraint</li> <li>Data Structure - Default Constraint</li> <li>Data Structure - Null Constraint</li> <li>Data Structure - Type Constraint</li> </ul>	<ul style="list-style-type: none"> <li>Data Aggregation - Average Function</li> <li>Data Aggregation - Count Function</li> <li>Data Aggregation - Sum Function</li> <li>Data Operation - Inner Join</li> <li>Data Operation - Left Outer Join</li> <li>Data Operation - Right Outer Join</li> <li>Data Operation - Full Join</li> <li>Data Operation - Cross Join</li> </ul>	<ul style="list-style-type: none"> <li>Data Operation - Union</li> <li>Data Operation - Union All</li> <li>Data Operation - Intersect</li> <li>Data Operation - Except</li> <li>Data Operation - Common Table Expression Subquery</li> <li>Data Operation - From Subquery</li> <li>Data Operation - Where Subquery</li> <li>Data Query - For Trigger</li> <li>Data Query - After Trigger</li> <li>Data Query - After Trigger</li> </ul>	<ul style="list-style-type: none"> <li>Data Query - View</li> <li>Data Query - Scalar Function</li> <li>Data Query - Tabular Function</li> <li>Data Query - Stored Procedure</li> <li>Transaction - ACID</li> <li>Transaction - Commit</li> <li>Transaction - Rollback</li> <li>Isolation Level - Read Uncommitted</li> <li>Isolation Level - Read Committed</li> <li>Isolation Level - Repeatable Read</li> <li>Isolation Level - Serializable</li> </ul>	<ul style="list-style-type: none"> <li>Entity Framework Core [3.x]</li> <li>Azure Data Studio [1.x]</li> <li>SQL Server Management Studio [2019]</li> <li>Transact-SQL [2019]</li> <li>Docker [2.x]</li> </ul>

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<b>Week 3 MVC</b>	Project Day - P0  Quality Control Audit  Technical Assessment  • Week 3 Day 1 Hackerrank Activity	<ul style="list-style-type: none"> <li>HTML Fundamentals (Accessibility, Attributes, Elements, Metadata, Semantic Web)</li> <li>CSS Fundamentals (Box Model, Responsive Web Design, Specificity, Rule Sets)</li> </ul>	<b>Project Showcase - P0</b>  <ul style="list-style-type: none"> <li>DOM (Structure, Events, Selectors)</li> <li>Request Lifecycle (DNS, Response, Request)</li> <li>MVC Concepts (Controller, Model, View)</li> <li>Data Access - Code First Approach</li> </ul>	<ul style="list-style-type: none"> <li>Model (Binding, Data Annotations, ViewModel)</li> <li>View (Partial-Views, Strongly-Typed, Weakly-Typed)</li> <li>Controller (Actions, HTTP Verbs, Request Parameters)</li> <li>Design Pattern - Dependency Injection</li> </ul>	<ul style="list-style-type: none"> <li>Helpers (Custom, HTML, Tag)</li> <li>Filters (Action, Authorization, Custom, Exception, Response)</li> <li>Routing (Global, Controller, Action)</li> <li>Test Driven Development (Mock, Stub, Integration)</li> <li>Week 3 Day 5 Hackerrank Activity</li> </ul>	<ul style="list-style-type: none"> <li>ASP.NET Core MVC [3.x]</li> <li>Entity Framework Core [3.x]</li> <li>Visual Studio Code [1.x]</li> <li>Visual Studio IDE [2019]</li> </ul>
<b>Week 4 DevOps</b>	<ul style="list-style-type: none"> <li>Software Development Lifecycle (Waterfall, Iteration, V-Model, Agile)</li> <li>Source Control Management (Branch, DVCS, Merge, Pull Request, Documentation, License, Changelog)</li> </ul> Quality Control Audit  Technical Assessment  • Week 4 Hackerrank Activity	<ul style="list-style-type: none"> <li>Docker Fundamentals (Virtualization, Containerization, Packaging)</li> <li>Docker and Docker Compose (Configuration, Compose, Ignore, Image, Container, Registry)</li> </ul>	<ul style="list-style-type: none"> <li>DevOps Fundamentals (Cycle Time, Feedback Loop, Validation)</li> <li>DevOps Tooling (CI/CD, Pipeline, Build Definition, Static Code Analysis, Release Definition)</li> </ul>	<ul style="list-style-type: none"> <li>Code Analysis (Coverage, Review, Technical Debt, Duplication, Vulnerability, Duplication, Security)</li> <li>Code Quality (Test Runner, Unit Testing, Integration Testing)</li> </ul>	<ul style="list-style-type: none"> <li>Cloud Computing Fundamentals (Cost, Scale, Security)</li> <li>Cloud Computing Types (IaaS, PaaS, SaaS, CaaS)</li> <li>Cloud Computing Models (Hybrid, Private, Public)</li> </ul>	<ul style="list-style-type: none"> <li>Docker [19.x]</li> <li>Azure [hosted]</li> <li>Azure DevOps [hosted]</li> <li>SonarCloud [hosted]</li> </ul>
<b>Week 5 SOA</b>	Project Day - P1  Quality Control Audit  Technical Assessment  • Week 5 Day 1 Hackerrank Activity	<b>Project Showcase - P1</b>  <ul style="list-style-type: none"> <li>SOA Fundamentals (Patterns, Principles)</li> <li>SOAP Fundamentals (ABC, Behaviors, Contracts, WSDL)</li> </ul>	<ul style="list-style-type: none"> <li>REST Fundamentals (Client-Server, Stateless, Cache, Uniform Interface, Layer, On Demand)</li> <li>REST Tooling (CORS, CSRF, HttpClient)</li> </ul>	<ul style="list-style-type: none"> <li>Security and Identity (Authentication, Authorization, JWT, Claims, Secret Management, Data Protection, GDPR, Provider, IDaaS)</li> <li>Code Structure - Asynchronous Programming</li> </ul>	<ul style="list-style-type: none"> <li>JavaScript (Datatypes, DOM, Functions, Prototypes, Scopes)</li> <li>Ajax Fundamentals (Fetch API, HTTP Verbs, XMLHttpRequest)</li> <li>Event Handlers (Listeners, Propagation)</li> <li>Week 5 Day 5 Hackerrank Activity</li> </ul>	<ul style="list-style-type: none"> <li>ASP.NET WCF</li> <li>ASP.NET Core Web API [3.x]</li> <li>Okta [hosted]</li> </ul>

	MON	TUE	WED	THU	FRI	ENVIRONMENT
<b>Week 6 Angular</b>	<ul style="list-style-type: none"> <li>TypeScript Fundamentals (Class, Interface, Datatypes)</li> <li>Imports and Exports</li> <li>Compilation and Transpilation</li> </ul> Quality Control Audit Technical Assessment <ul style="list-style-type: none"> <li>Week 6 Hackerrank Activity</li> </ul>	<ul style="list-style-type: none"> <li>Angular Fundamentals (Command Line, Workspace)</li> <li>Architecture (Modules, Components, Templates)</li> </ul>	<ul style="list-style-type: none"> <li>Modeling (Decorators, Directives, Forms, Data Binding)</li> <li>Dependency Injection (Injectables, Services, HttpClient)</li> </ul>	<ul style="list-style-type: none"> <li>Bootstrapping (Pipes, Filters, Events)</li> <li>Routing (Route Handlers, Navigation)</li> </ul>	<ul style="list-style-type: none"> <li>Reactive Programming (Promises, Observables)</li> <li>Testing (Unit, End-to-End, Stubs)</li> </ul>	<ul style="list-style-type: none"> <li>Angular [8.x]</li> <li>JavaScript [ES2015]</li> <li>TypeScript [3.x]</li> </ul>
<b>Week 7 MSA</b>	Project Day - P2 Quality Control Audit Technical Assessment <ul style="list-style-type: none"> <li>Assign Week 7 Group Hackerrank Research Assignment</li> </ul>	<b>Project Showcase - P2</b> <ul style="list-style-type: none"> <li>Microservice Fundamentals (Service Oriented, State Independence, Consistency, Availability, Encapsulation)</li> </ul>	<ul style="list-style-type: none"> <li>Kubernetes Fundamentals (Portability, Scalability, Extensibility)</li> <li>Kubernetes Architecture (Cluster, Node, Pod, Container)</li> </ul>	<ul style="list-style-type: none"> <li>Kubernetes Tooling (Kubect!, Minikube, Docker, YAML, AKS)</li> <li>State Management (Stateful, Stateless)</li> <li>Group Discussion for Hackerrank Assignment</li> </ul>	<ul style="list-style-type: none"> <li>Security (Secret Management, Network Group, Cluster Upgrade)</li> <li>Scalability and Failover (Ingress, Autoscaling)</li> <li>Presentation of Hackerrank Assignment</li> </ul>	<ul style="list-style-type: none"> <li>Azure AKS [hosted]</li> <li>Docker [19.x]</li> <li>Kubernetes [1.x]</li> </ul>
<b>Week 8 Portfolio</b>	Portfolio Writing Quality Control Audit Technical Assessment <b>Panel Orientation</b> <ul style="list-style-type: none"> <li>Individual Hackerrank Assessment</li> </ul>	Project 3 Portfolio Writing	Project 3 Portfolio Writing	Project 3 Portfolio Writing	Project 3 Portfolio Writing	
<b>Week 9 Panels</b>	Project 3 Panel Interviews - Day 1	Project 3 Panel Interviews - Day 2	Project 3 Panel Interviews - Day 3	Project 3 Panel Interviews - Day 4	Project 3 Panel Interviews - Day 5	
<b>Week 10 Project Showcase</b>	Project 3 Panel Interviews - Day 6	Project 3 Panel Interviews - Day 7	Project 3 Panel Interviews - Day 8	<b>Project Showcase - P3</b>	<b>Promotion Ceremony</b>	

PROJECT	TECHNOLOGIES
Project 3	Agile/Scrum, C#, SQL, Angular, Web API, Azure, Active Directory, DevOps, Entity Framework
Project Day - P0	C#, SQL
Project Day - P1	Agile/Scrum, C#, SQL, Entity Framework, ASP.NET MVC, Serilog
Project Day - P2	Agile/Scrum, C#, SQL, Entity Framework, Angular, Web API, DevOps



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