	Subject	Date	Time
1	**Basics of C# Programming**		
1.1	C# language and .NET platform	3.01.24	18:00
1.2	Variables		
1.3	Data types		
1.4	Static variables and constants		
1.5	Working with the console application		
1.6	Arrays		
1.7	C# arithmetic/comparison operations		
1.8	If else and Switch case constructions		
1.9	Loops (For, Foreach, While, Do-while)	4.01.24	18:00
1.10	Methods		
1.11	Method with params parameter		
1.12	Ref and Out keywords in methods		
1.13	Local and recursive function		
1.14	Tuple and Enum		
2	**Classes, structures and namespaces**		
2.1	Classes and objects	9.01.24	18:00
2.2	Constructors, initializer, and destructors		
2.3	Fields and properties		
2.4	Method and static method in class		
2.5	Structures		
2.6	Record type		
2.7	Namespace and global namespace		
2.8	Partial and extended classes	11.01.24	18:00
2.9	Value types and reference types		
2.10	Nullability in value types and reference types		
2.11	Accessibility of the class and class members		
3	Improve searching and designing knowledges		
3.1	How to search/find what you need?		
3.2	How to use AI chats correctly?		
3.3	Select a project to atomize your organization		

4	**Delegates, Events, and Lambdas**	16.01.24	18:00
4.1	Delegates and using of that		
4.2	Action and Func Delegates		
4.3	Anonymous Methods		
4.4	Lambdas		
4.5	Events		
5	**Object-Oriented Programming (OOP)**		
5.1	What is OOP and its concepts in C#?	18.01.24	18:00
5.2	Inheritance		
5.3	Abstract Classes		
5.4	Read-only Properties in a Class		
5.5	Virtual Methods and Properties		
5.6	Hiding, Overriding, and Abstract Methods	23.01.24	18:00
5.7	Interfaces		
5.8	Interface Inheritance		
5.9	Generic Classes	25.01.24	18:00
5.10	Generic Methods		
5.11	Generic Properties		
6	**Collections and LINQ queries**		
6.1	List<T>	30.01.24	18:00
6.2	Dictionary<Tkey, Tvalue>		
6.3	ConcurrencyDictionary<Tkey, Tvalue>		
6.4	Span<T>		
6.5	Queue<T>		
6.6	Stack<T>		
6.7	HashSet<T>		
6.8	IEnumerable<T> and IQueryable<T>		
6.9	LINQ-queries	1.02.24	18:00
	Exam 1	6.02.24	18:00
	Tests		
	Review projects		

7	**Entity Framework Core (ORM)**	8.02.24	18:00
7.1	Entity Framework Core		
7.2	Using Entity Framework Core in ASP.NET Core		
7.3	Modeling and creating tables		
7.4	Creating relationships between tables	13.02.24	18:00
7.5	CRUD with Entity Framework Core		
7.6	Repository pattern for CRUD operation		
7.7	Approaches for obtaining data: Eager, Lazy loading	15.02.24	18:00
7.8	Migration management		
8	**ASP.NET Core**	20.02.24	18:00
8.1	Introduction to ASP.NET Core		
8.2	Rules for creating routes		
8.3	Logging in ASP.NET Core	22.02.24	18:00
9	**REST and API**	27.02.24	18:00
9.1	Introduction to REST		
9.2	Basic principles		
9.3	Http methods and responses		
10	**Multithreading**		
10.1	Introduction		
10.2	Running Code Simultaneously		
10.3	Processes		
10.4	Threads		
11	**Parallelism**		
11.1	Introduction		
11.2	Difference Between Concurrency and Parallelism		
11.3	Launching a New Thread		
12	**Asynchronous and Synchronous**		
12.1	Introduction		
12.2	Difference Between Concurrency, Parallelism, and Asynchrony		

12.3	Async/await methods		
13	**Concurrency**		
13.1	Introduction		
13.2	Difference Between Concurrency and Multithreading		
13.3	Avoid of concurrency issue		
14	**Memory Management in .NET**		
14.1	Value and reference types		
14.2	Stack and Heap		
14.3	Mutable and Immutable classes		
14.4	Boxing and Unboxing		
14.5	Garbage collector		
14.6	Small/Large Object Heap		
14.7	Managed and unmanaged code		
14.8	Dispose Pattern		
14.9	Finalizer		
15	**SOLID**		
15.1	Single Responsibility Principle		
15.2	Open-closed Principle		
15.3	Liskov substitution Principle		
15.4	Interface Segregation Principle		
15.5	Dependency Inversion Principle		
16	**Design patterns**		
16.1	Introduction		
16.2	Pattern Types		
16.3	Creational patterns		
16.4	Structural patterns		
16.5	Behavioral patterns		
16.6	Repository, Strategy, Dependency Injection pattern		
17	**Dependency injection (DI)**		

	Exam 2		
	Tests		
	Review projects		
23	**Test Driven Development Methodology**		
23.1	Creating a Project Using TDD		
23.2	TDD principles		
23.3	Practice: Creating a simple calculator using TDD		
24	**Unit testing**		
24.1	Using the NUnit framework		
24.2	Using the xUnit framework		
24.3	Mock testing		
24.4	Mocking using Moq		
24.5	Mocking using NSubstitute		
25	**Integration tests**		
25.1	Working with WebApplicationBuilderFactory		
25.2	Creating an HttpClient from a WebApplicationBuilderFactory		
25.3	EF Core configuration under different test environments		
25.4	Using services from WebApplicationBuilderFactory		
26	**Blazor**		
26.1	Introduction		
26.2	Blazor Web Assembly and Server		
26.3	Razor pages		
26.4	Create your first Blazor Web Assembly project		
27	**Blazor pages and templates**		
27.1	Creating pages and specifying the address		
27.2	Creating and applying a template		
27.3	Writing C# code inside a page		

28	**Blazor Authentication and Authorization**		
28.1	Introduction		
28.2	Creating a CustomAuthStateProvider		
28.3	Saving the token in local storage		
28.4	Authorization in pages		
29	**Blazor CRUD**		
29.1	Creating Pages and Project Templates		
29.2	Using TabBlazor		
29.3	Execution of CRUD warehouses		
30	DevOps – project publication		
30.1	Introducing Azure		
30.2	Creating resources on Azure		
30.3	Create Azure Key Vault		
30.4	Creating a Resource API		
30.5	Creating SQL Server and Database		
30.6	Creating a Blazor Static Web App		
30.7	Creating a CI-CD for publishing		
	Preparing for the Demo		