

# CS6004NT

# Application Development

***WEEK - 01***

# Last Semester

.NET platform, C#, OOP, Blazor, MAUI

# This Semester

# Programming Principles

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- SOLID Principles
  - Single responsibility principle
  - Open/Closed principle
  - Liskov substitution principle
  - Interface segregation principle
  - Dependency inversion principle
- Other Principles
  - DRY
  - KISS
  - YAGNI
  - Separation of Concerns

# C# Advanced Topics

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- Async, Await, and Task
- Reflection and Attributes
- Dependency Injection
- Extension Methods

# Web API

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- REST (REpresentational State Transfer) API
- Minimal APIs
- Controller Based APIs
- HttpContext
- Swagger UI
- AutoMapper
- FluentValidation
- HttpClient

# Entity Framework Core

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- Microsoft SQL Server
- Code First vs DB First EF Core models
- Defining EF Core models
- Querying EF Core models
  - LINQ with EF Core
- Manipulating data with EF Core
- Working with transactions

# ASP.NET Core Identity

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- Signing In and Out
- Cookies
- Managing Passwords
- Creating, Deleting, and Locking Accounts
- Sending Emails
- Roles and Claims
- Two-Factor and External Authentication
- JWT Bearer Tokens



# Miscellaneous

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- Real-time communication using SignalR
- JS Interop in Blazor
- Using JS Fetch API to make API calls
- Deploying API and SPA
  - Docker
  - CI/CD

# Thank You