



## Course Syllabus: Angular

This course is designed for beginners who want to learn the fundamentals of Angular, a powerful JavaScript framework for building dynamic web applications. Join us as we explore Angular's key concepts, components, data binding, services, routing, and more. Get ready to embark on your journey into the world of Angular development!

### **Scope of hours:**

40 academic hours

### **Target audience and admission requirements:**

The course is suitable for those with a background in writing code.

### **Subjects**

#### Module 1: Introduction to Angular

- - Web Application Development Overview
- - Introduction to Angular Framework
- - Angular Architecture and Key Concepts
- - Setting Up Angular Development Environment
- - Angular CLI Installation and Usage
- - Creating and Running Angular Projects

#### Module 2: Angular Components and Databinding

- - Angular Component Structure and Lifecycle Hooks
- - Angular Templates and Data Binding
- - Angular Directives: Structural and Attribute Directives
- - Component Interaction using @Input and @Output Decorators
- - Handling User Input with Event Binding
- - Template-driven Forms and Validation
- - Reactive Forms and Form Validation

## Module 3: Angular Services and Dependency Injection

- - Angular Services: Creating and Injecting Services
- - Hierarchical Dependency Injection and Providers
- - Understanding Angular Dependency Injection Hierarchies
- - Communication between Components using Services
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- - HTTP Communication with Angular's HttpClient
- - Handling HTTP Requests, Responses, and Errors

## Module 4: Angular Routing and Navigation

- - Introduction to Angular Router
- - Setting Up Routes and Route Configuration
- - Route Parameters and Data Binding
- - Child Routes and Route Guards
- - Lazy Loading Modules and Preloading Strategies
- - Implementing Navigation and RouterLink
- - Handling Route Events and Navigation Extras

## Module 5: Advanced Angular Concepts

- - Angular Modules: Feature Modules and Shared Modules
- - Angular Animations and Transitions
- - Internationalization and Localization (i18n)
- - Working with Angular Material Components
- - State Management with NgRx
- - Unit Testing Angular Components and Services
- - Deployment and Build Optimization Techniques

## Module 6: Angular Best Practices and Advanced Topics

- - Angular Project Structure and Code Organization
- - Performance Optimization Techniques
- - Angular Security Best Practices
- - Angular Testing Strategies
- - Angular Application Debugging and Troubleshooting
- - Angular Updates and Migration Strategies
- - Advanced Topics: Server-side Rendering (SSR), Progressive Web Apps (PWA)

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Note: The syllabus provided is a general outline for a 40-hour course on Angular. The actual curriculum may vary based on specific learning objectives, instructor preferences, and the pace of the class.

