**ASP.net MVC 5 Course Outline**

* 30 hours
* 3 weeks regular
* 6 weeks weekends

**MVC 5 New features:**

* Authentication filters
* Bootstrap support
* New scaffolding items
* ASP.Net Identity

**Prerequisites:**

In order to take this course, you should have at least 3 months experience programming in C#. Also, any familiarity with Entity Framework will be helpful but not required.

* C# Basics for Beginners (essential knowledge)
* C# Intermediate: Classes, interfaces and Object-oriented (essential knowledge)
* C# Advanced (essential knowledge)
* Entity Framework in Depth (nice to have)

**MVC5 Course Highlights**

* Understand the MVC architectural pattern
* Implement CRUD operations
* Build forms with server-side and client-side validation
* Build RESTful services using ASP.NET Web API
* Use powerful jQuery plug-ins
* Implement authentication and authorization using ASP.NET Web API
* Use Entity Framework to query or update data
* Understand and apply security best practices
* Build and deploy applications
* Create and customize build configurations
* Manage client / server dependencies
* Test APIs using PostMan
* Use AutoMapper

**MVC Content Outline**

**Introduction**

* Goals of Modern Web Development
* ASP.NET MVC
* Model-View-Controller Design Pattern
* Unit Testing
* Convention Over Configuration
* Managing Dependencies
* Case-Study Application
* Hands-On Lab Exercise

**Request Pipeline**

**Routing**

* Configuration
* RouteValueDictionary
* Route Constraints
* Catch-All Parameter
* Ignoring Routes
* Hands-On Lab Exercise

**Controllers**

* Introduction
* Conventions
* Request Pipeline
* Controller Class Hierarchy
* ActionResult
* Hands-On Lab Exercise

**Models**

* Hands-On Lab Exercise
* Object-Relational Mapping

**Entity Framework 6**

* Evolution
* NuGet
* Code First
* DbContext
* Data Annotations
* Fluent API
* Performance
* Hands-On Lab Exercise

**Views**

* Implementation
* View Engines
* Razor Syntax
* View Templates
* Bootstrap Framework
* Layouts
* Hands-On Lab Exercise

**Helpers**

* HTML Helpers
* Html.ActionLink
* Url.Action
* Strongly-Typed Helpers
* Custom Helpers
* Inline Razor Helpers
* Hands-On Lab Exercise

**Strongly-Typed Views**

* Creating
* Passing Model Objects
* Hands-On Lab Exercise

**Controller Inheritance**

* Code Reuse
* Initialize Method
* Hands-On Lab Exercise

**HTML Forms**

* Helpers
* Hands-On Lab Exercise
* Action Selectors
* Model Binding
* Hands-On Lab Exercise

**Partial Views and Child Actions**

* Partial Views
* Hands-On Lab Exercise
* Child Actions

**Display and Edit Annotations**

* Hands-On Lab Exercise

**ViewModels**

* Model Binding
* Inheritance
* Hands-On Lab Exercise

**Data Validation**

* Validation Attributes
* ModelState
* IValidatableObject
* Hands-On Lab Exercise
* Remote Validation

**jQuery and Ajax**

* jQuery
* Unobtrusive JavaScript
* Ajax Helpers
* Hands-On Lab Exercise

**jQuery UI**

* Datepicker Widget
* Hands-On Lab Exercise
* Autocomplete Widget
* Hands-On Lab Exercise

**Action Filters**

* OutputCache
* HandleError
* RequireHttps
* Authorization
* Global Filters
* Custom Filters
* Hands-On Lab Exercise

**Asynchronous Controller Actions**

* Example
* Timeouts

**Mobile Clients**

* Bootstrap Framework
* Overriding Views
* jQuery Mobile

**Web API 2**

* ApiController
* Action Parameters
* Exceptions
* Configuration
* Routing
* Model Binding
* Formatters
* Status Codes
* Hands-On Lab Exercise

**Security**

* Authentication
* Cross-Site Scripting (XSS)
* Cross-Site Request Forgery (CSRF)
* Over-Posting

**Deployment**

* Web.config Transformations
* IIS Best Practices