



ATMIYA UNIVERSITY

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER APPLICATIONS

MASTER OF COMPUTER APPLICATIONS

Course Code	Course Name	Credits
20MCADC302	Programming using ASP.Net	03

❖ Aim of the Course:

This course provides a comprehensive and practical hands-on introduction to developing Web applications using MVC ASP.NET and C#.

❖ Course Overview and Context:

This course includes an introduction to MVC ASP.NET and AJAX to build rich client applications. With Razor MVC ASP.NET is introduced as a Web programming platform that overcomes a number of limitations of ASP and Asp.net. Web Forms are introduced, including server controls, viewstate, life cycle, and the event model. Request/Response HTTP programming using MVC ASP.NET is covered.

❖ Course Outcomes:

Sr #	Course Outcome	Cognitive Level
1	To Clarify class structure and necessary fields, methods and parameters to meet real-life situation.	Remember, Understand
2	To distinguish properties and fields, delegates and events	Understand, Apply, Evaluate
3	To acquire a working knowledge of Web application development using Web Forms and Visual Studio	Understand, Apply, Evaluate
4	To construct a model to optimize an ASP.NET Web application using configuration, security, and caching	Understand, Apply
5	To be able to determine access databases using ADO.NET and More recent ASP .NET features	Understand, Apply

❖ Content of the Course:

Unit-1 Introduction to C#

- Identifier, keywords, statements, comments, text input and output, type – predefined type, user defined type, value type, reference type, variable, static and dynamic keyword.
- **Class:** Declaring class, class members, accessing member from inside and outside class, instance constructor, static constructor, object initializer, destructor, readonly modifier, this keyword
- **Field & Method:** static field, lifetime of static members, constant and static members, structure, local variable and constant, method invocation, return value, formal and actual parameter, value parameter, reference parameter, output parameter, parameter arrays, ref local, ref return, method overloading, named parameter, optional parameter, recursion
- Array: rectangular array, jagged array, foreach statement with array

Unit-2 Properties, Indexers, Delegates, Events

- Properties: property declaration, read-only and write-only property, auto property, static property.
- Indexers: declaring indexer, set and get accessors, using indexer, indexer overloading
- Delegates: overview of delegate, declaring delegate type, creating delegate object, assigning delegates, combining delegates, adding and removing methods to delegate, invoking delegate,



delegate with parameter and return value

- Events: declaring an event, subscribing to an event, raising an event, removing event handler, event accessors.

Unit-3 Overview of ASP.Net and MVC

- Introduction of different Web Technology
- What is ASP.NET MVC
- Role of Model, View, and Controller
- How ASP.NET MVC Works
- Benefits of using ASP.NET MVC
- Setting up and Installing ASP.NET MVC
 - Installing Internet Information Server
 - Installation of ASP.NET MVC
 - Application Setting in IIS.
- ASP.NET MVC project templates
- Understanding the structure of an ASP.NET MVC project
- Naming conventions
- Creating views
- Defining controllers
- Defining a data model
- Overview of coding standards follows during programming
- Creating an application in MVC
 - Creating strongly-typed views
 - Understanding URLs and action methods
 - Using HTML helpers
 - Handling form post-backs
 - Data validation
- Razor View Engine
 - Razor Basics
 - Razor design goals
 - Implementation of Razor view
 - Razor syntax
 - Accessing Model Data in Razor views

Unit-4 Strengthening of ASP.NET MVC Applications

- ASP.NET application architecture best practices
- Implementing a Repository and Entity Framework Data Model
- Using Dependency Injection
- Implementing a custom controller factory
- View Techniques
 - Defining and using custom HTML Helpers
 - Defining a layout / MVC Master Page
 - Using Styles
 - Defining and using partial views
 - Razor Helper Method syntax

Unit-5 Implementing Navigation in MVC web apps and State Management

- Defining view-model classes
- Implementing Data Filtering in a Controller
- Understanding the Routing mechanism
- Adding custom entries to a route table



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- Defining defaults, parameters, and validation
- Generating URLs and Hyperlinks
- Custom Route constraints
- Using hidden fields
- Session and Application State

❖ Learning Resources:

Sr #	Textbook References Internet Links
1	Pro ASP.NET Core MVC 2 Book by Adam Freeman
2	Introduction to ASP.NET Web Programming Using the Razor Syntax (C#) by Tom FitzMacken

❖ Assignments (Optional):

Sr #	Description	Available From (Date)	Submission Date
1	C# topics	After 3 Weeks	Within 10 Days
2	ASP.Net Web Application topics	After 6 Weeks	Within 7 Days