

Course: 303: Advanced Web Technologies
(Elective)

Course Code	303									
Course Title	Advanced Web Technologies									
Credit	4									
Teaching per Week	4 Hrs.									
Minimum weeks per Semester	15 (Including Class work, examination, preparation, holidays etc.)									
Last Review / Revision	June 2021									
Purpose of Course	To teach ASP .Net for web application development									
Course Objective	To impart knowledge of web application development using ASP .Net									
Course Outcome	CO1 : Explain students the fundamental aspects of .NET framework and ASP.NET. CO2 : Train students to use various tools and controls available in ASP.NET in web application development, how to integrate them and to get them work as a part of one single unit. CO3 : Train students to work with database using ADO.NET through design alternatives and through coding as well, also learn the concept of Language Integrated Query. CO4 : Explain and train students to work with MVC architecture to adopt the requirements of modern days application development. Also learn component based development through web services and APIs. CO5 : Expose the students to the new era of .NET Core to understand the upgrades and developments in .NET architecture. CO6 : Explain students to utilize tools & techniques available in ASP.NET for web based application development and server side component development.									
Mapping between COs with PSOs		PSO1	PSO2	PSO3	POS4	PSO5	PSO6	PSO7	PSO8	
	CO1									
	CO2									
	CO3									
	CO4									
	CO5									
	CO6									
Pre-requisite	Fundamental of .Net framework, HTML and C# desirable									
Course Content	Unit : 1 : Introduction to ASP.NET 1.1. Overview of ASP.NET 1.2. Page Class and Page Life Cycle 1.3. Web Configuration files 1.4. Exception Handling 1.5. Error Pages 1.6. ASP.NET State Management 1.7. Introduction to Caching Unit : 2 : ASP.NET Controls 2.1 Web Controls 2.1.1 Common Web Server Controls 2.1.2 Specialized Web Server Controls 2.1.3 Table, Image, FileUpload 2.1.4 PostBack / Auto PostBack 2.2 Validation and Rich Controls 2.3 Website Navigation Controls - Sitemap, Treeview, Menu Controls 2.4 ASP.NET AJAX Controls 2.4.1 Introduction 2.4.2 Server Callbacks / Script Manager 2.4.3 ASP.NET AJAX Server Controls 2.4.4 UpdatePanel									

	<p>Unit : 3 : ASP .NET Web Application with Database</p> <p>3.1. ADO.NET Architecture</p> <p>3.2. Direct Data Access</p> <p>3.3. Disconnected Data Access</p> <p>3.4. Data Binding & Data Controls</p> <p>3.4.1. Single-view, Repeated-Value, Data Source</p> <p>3.4.2. Grid view ,Detail View, Form View</p> <p>3.4.3. Data Repeater Control</p> <p>3.5. LINQ</p> <p>3.5.1. LINQ Language Features</p> <p>3.5.2. LINQ to Objects</p> <p>3.5.3. LINQ to SQL</p> <p>Unit : 4 : ASP .NET - MVC , WCF Services & API</p> <p>4.1. ASP.NET MVC</p> <p>4.1.1. MVC Architecture</p> <p>4.1.2. URL Routing Engine</p> <p>4.1.3. Wiring Controller, Model, and View</p> <p>4.1.4. Data Access</p> <p>4.1.5. Introduction to Entity Framework</p> <p>4.2. WCF Services</p> <p>4.2.1. Introduction to Web Services</p> <p>4.2.2. RESTful API</p> <p>4.2.3. Working with WCF Services</p> <p>4.3. API</p> <p>4.3.1. Introduction to JSON</p> <p>4.3.2. Web API</p> <p>4.3.3. API Creation and Consumption</p> <p>Unit : 5 : ASP.NET CORE</p> <p>5.1. Overview of C#.NET CORE</p> <p>5.2. .NET CORE Assemblies and Libraries</p> <p>5.3. Pattern Matching</p> <p>5.4. Tuples and Deconstruction</p> <p>5.5. Local/Nested Functions</p> <p>5.6. NuGet Package</p>
Reference Book	<p>1. Professional ASP.NET, Wrox Publication</p> <p>2. ASP.NET – From Novice to Professional, Wrox Publication</p> <p>3. ASP.NET Bible, By Mridula Parihar</p> <p>4. Beginning ASP.NET 4.5, Wrox Publication</p> <p>5. ASP.NET MVC with Entity Framework and CSS, APress</p> <p>6. Programming Microsoft ASP.NET, Microsoft Press</p> <p>7. Beginning AJAX with ASP.NET, Wrox Publication</p> <p>8. Professional ASP.NET MVC 5, Wrox Publication</p> <p>9. Professional C# 7 and .NET Core 2.0 , Wrox Publication</p> <p>10. ASP.NET Core 2 Fundamentals, Packt Publication</p> <p>11. Pro ASP.NET MVC 5, Apress</p> <p>12. Programming ASP.NET Core, Microsoft Press</p> <p>13. Pro C# 7 with .NET and .NET Core, Apress</p> <p>14. Pro ASP.NET Core MVC by Adam Freeman, Springer, 2016</p>
Teaching Methodology	Classroom, seminar and assignment
Evaluation Method	As per University rules