

Course : IT 702 : Application Development using .NET CORE

Course Code	702
Course Title	Application Development using .NET CORE
Credit	4
Teaching per Week	4 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation, holidays etc.)
Last Review / Revision	June 2019
Purpose of Course	This course helps students to understand and use .NET advanced concepts with real world .NET applications.
Course Objective	To impart knowledge of Enterprise application development using .NET Framework.
Pre-requisite	Object Oriented Fundamental, ADO.NET, ASP.NET, Basic knowledge of C#
Course Out come	Students will be able to develop enterprise applications using .NET advanced concepts.
Course Content	<p><b>Unit : 1: ASP.NET using C#.Net</b></p> <ul style="list-style-type: none"> <li>1.1 Overview of C#.NET Language</li> <li>1.2 Overview of ASP.NET Features</li> <li>1.3 Generics</li> <li>1.4 Serialization</li> <li>1.5 Membership Functionality</li> <li>1.6 Globalization and Localization</li> <li>1.7 Working with AJAX <ul style="list-style-type: none"> <li>1.7.1 Client Side and Server Side AJAX</li> <li>1.7.2 AJAX Toolkit</li> </ul> </li> <li>1.8 Web Services <ul style="list-style-type: none"> <li>1.8.1 Introduction to Web Services</li> <li>1.8.2 RESTful API</li> <li>1.8.3 Working with .NET Application</li> </ul> </li> <li>1.2 Working with RESTful Services</li> </ul> <p><b>Unit : 2 : ASP.NET MVC</b></p> <ul style="list-style-type: none"> <li>2.1 MVC Architectural Pattern</li> <li>2.2 URL Routing Engine</li> <li>2.3 Routing Configuration</li> <li>2.4 Wiring Controller, Model, and View</li> <li>2.5 Data Access and Modeling</li> <li>2.6 TempData, ViewBag and ViewData</li> <li>2.7 Working with RESTful Services</li> <li>2.8 Unit Testing and ASP.NET MVC</li> <li>2.9 Razor View Engine</li> </ul> <p><b>Unit : 3 : Language Integrated Queries - LINQ</b></p> <ul style="list-style-type: none"> <li>3.1 LINQ Language Features</li> <li>3.2 Object Initialization</li> <li>3.3 Anonymous Types</li> <li>3.4 Implicitly Typed Local Variables</li> <li>3.5 Lambda Expression</li> <li>3.6 Query Expression</li> <li>3.7 LINQ to Objects</li> <li>3.8 LINQ to SQL</li> <li>3.9 LINQ to Entities</li> </ul> <p><b>Unit : 4 : Programming using C#.Net CORE</b></p> <ul style="list-style-type: none"> <li>4.1 Overview of C#.Net CORE</li> <li>4.2 .NET CORE Assemblies and Libraries</li> <li>4.3 Pattern Matching</li> <li>4.4 Tuples and Deconstruction</li> </ul>

	<p>4.5 Local/Nested Functions</p> <p>4.6 Expression Bodied Members</p> <p>4.7 Working with Delegates and Events</p> <p>4.8 Async return types</p> <p>4.9 NuGet Package</p> <p><b>Unit : 5 : Application Designing using ASP.NET Core</b></p> <p>5.1 Introduction to ASP.NET Core</p> <p>5.2 Working with OpenID and OAuth Login</p> <p>5.3 Asynchronous Programming</p> <p>5.4 Multiple Environments and Development Mode</p> <p>5.5 Working with WebSockets and SignalR</p> <p>5.6 Self hosting of Web Applications</p> <p>5.7 Dependency Injection</p> <p>5.8 Action Filters</p> <p>5.9 Security and Identity</p> <p>5.10 Working with SQL and No-SQL Data Storage Types</p>
Reference Book	<ol style="list-style-type: none"> <li>1. Professional C# 7 and .NET Core 2.0 by Christian Nagel, Wrox / Wiley, 2018</li> <li>2. C# 7 and .NET Core Cookbook by Dirk Strauss, O'Reilly / Packt Publishing Limited, 2017</li> <li>3. C# 7.1 and .NET Core 2.0 - Modern Cross-Platform Development - Third Edition by Mark J. Price, Packt Publishing Limited, 2017</li> <li>4. C# 7 and .NET Core 2.0 Blueprints by Dirk Strauss and Jas Rademeyer, Packt Publishing Ltd, 2018</li> <li>5. C# 7 and .NET Core: Modern Cross-Platform Development by Mark J. Price, Packt Publishing Ltd, 2017</li> <li>6. Learning ASP.NET Core 2.0 by Jason De Oliveira and Michel Bruchet, Packt Publishing Ltd, 2017</li> <li>7. Mastering ASP.NET Core 2.0 by Ricardo Peres, Packt Publishing Limited, 2017</li> <li>8. Professional ASP.NET MVC 5 by Jon Galloway, Wrox, 2014</li> <li>9. Beginning ASP.NET 4.5: in C# and VB by Imar Spaanjaars, Wiley, 2014</li> <li>10. ASP.NET Core 2 Fundamentals by Onur Gumus and Mugilan T. S. Ragupathi, Packt Publishing Ltd, 2018</li> <li>11. Learning ASP.NET Core MVC Programming by Mugilan T. S. Ragupathi, Packt Publishing Ltd, 2016</li> <li>12. ASP.NET Core Essentials by Shahed Chowdhuri, Packt Publishing Ltd, 2016</li> <li>13. Enterprise Application Architecture with .NET Core by Ganesan Senthilvel, Ovais Mehboob Ahmed Khan, Habib Ahmed Qureshi, Packt Publishing Ltd, 2017</li> <li>14. ASP.NET Core 2 and Angular 5 by Valerio De Sanctis, Packt Publishing Ltd, 2017</li> <li>15. ASP.NET MVC with Entity Framework and CSS by Lee Naylor, APress, 2016</li> <li>16. Pro ASP.NET Core MVC by Adam Freeman, Springer, 2016</li> </ol>
Teaching Methodology	Lectures, Discussion, Independent Study, Seminars and Assignment
Evaluation Method	30% Internal assessment 70% External assessment