



**ADMINISTRATIVE MANAGEMENT COLLEGE**

**18<sup>th</sup> KM, Bannerghatta Road, Bangalore - 560083**

## **Dot Net Frame Work**

### **Course Objectives**

Set up a programming environment for ASP.net programs. - Configure an asp.net application.  
- Creating ASP.Net applications using standard .net controls. - Develop a data driven web application. - Connecting to data sources and managing them. - Maintain session and controls related information for user used in multi-user web applications - Understand the fundamentals of developing modular application by using object oriented methodologies - Use AJAX to create partial-page updates that refresh only the parts of the Web page that have changed

#### 1. An Introduction to C#

- What is .NET?
- What is the CLR?
- The FCL
- Primitive Types
- Namespaces
- Statements and Expressions
- Operators

#### 2. Classes and Objects

- Constructors
- Reference Types
- Object Oriented Programming
- Inheritance
- Access Modifiers
- Abstract Classes
- Virtual Members
- Static Classes
- Sealed Classes
- Partial Classes

#### 3. C# - Types

- Reference Types
- Value Types
- The struct
- Testing Reference Types
- Testing Value Types
- Passing Parameters

- Strings
- Boxing
- The enum
- Defining Types
- Interfaces
- Arrays
- Assemblies
- 4. C# - Events, Properties, and Methods
  - Methods
  - Method Overloading
  - Fields
  - Properties
  - Events
  - Events - Delegates
  - Events - Subscribing
  - Events - Publishing
  - Indexers
  - Operator Overloading
  - Conversion Operators
- 5. C# - Flow Control and Exceptions
  - Branching
  - Switching
  - Looping
  - Using foreach
  - Jumping
  - Returning and Yielding
  - Throwing Exceptions
  - Built-in Exceptions
  - Handling Exceptions
  - Chaining Catch Blocks
  - Finally
  - Re-throwing Exceptions
  - Custom Exceptions
- 6. C# and the CLR
  - Garbage Collection
  - Threads
  - Async
  - Parallel
  - Reflection
  - Attributes
  - Custom Attributes
  - COM Interop
  - PInvoke
- 7. C# and Generics
  - Why Generics?
  - Building Collections Without Generics

- Generic Collections
  - Generic Parameters
  - Generic Constraints
  - Generic Methods
  - The default Keyword
  - Generic Interfaces
  - Generic Delegates
  - Variance
8. C# and LINQ
- Extension Methods
  - Extensions and Lambdas
  - Lambdas and Funcs
  - Funcs and Expressions
9. C# and the DLR
- Why Dynamic?
  - Using Dynamic Types
  - Excel Automation
  - The DLR
  - ExpandoObject
  - DynamicObject
  - Calling Ruby
10. Object Oriented Programming with C#
- Primitive Procedural Preoccupations
  - The Big Encapsulation
  - Little Abstractions
  - The Inheritance Check
  - A Clean Interface
  - Directional Dependencies
11. Functional Programming with C#
- Prime Abstraction
  - A Higher Calling
  - Lazy Code
  - Timing and Retries
  - Partial Application and Currying
  - Asynch and Parallel
  - Multithreading
12. Exploring the .NET Framework
- File I/O
  - Resource management with try/finally/using
  - Using XML serialization
  - Introducing assembly resolution
  - Deploying dependent assembly probing
  - Using a config file to control probing
  - ArrayList
  - Hashtable
  - SortedList

- Stack and Queue
- 13. Windows Form
  - Introduction to Windows Form
  - Form Controls
  - User Define Controls
- 14. ADO.NET
  - Connected Architecture
  - Disconnected Architecture
  - Working with Transaction
- 15. Windows Presentation Foundation(WPF)
  - Windows Application using WPF
  - Data Binding
  - Data Template
  - Styles
  - Commands
- 16. ASP.NET
  - Web Application using ASP.NET
  - ASP.NET Architecture
  - Control-based Programming
  - User Interface Elements
  - Deployment
  - Web Sites, Applications, and Virtual Directories in IIS
  - ASP.NET Diagnostics and Health Monitoring
- 17. ASP.NET Working With Data
  - Data Binding
  - State Management
  - Validation
  - Caching
- 18. ASP.NET 3.5 Security
  - IIS 6 & IIS7 URL Authorization
  - Forms authentication
  - Role-based authorization
  - Trimming site maps with roles
  - Config file encryption
  - ASP.NET Membership
  - Resources and Internationalization
- 19. ASP.NET 3.5 Advanced Topics
  - HTTP Pipeline
  - Custom Controls
  - Web Parts
  - Web Services
- 20. ASP.NET AJAX
  - ASP.NET Ajax Introduction
  - ASP.NET Ajax Server Controls
  - ASP.NET Ajax Server Data
  - ASP.NET Ajax Client-side Library
  - ASP.NET Ajax Control Toolkit

- 21. ASP.NET MVC
  - Web Application using MVC Pattern
  - Razor View
  - Controller
  - Model
- 22. Entity Framework
  - Introducing the Entity Framework
  - Code First Approach
- 23. Windows Communication Foundation(WCF)
  - WCF Configuration
  - Hosting WCF Services in Windows Services
  - Hosting WCF Services in IIS
  - Building RESTful services with WCF
- 24. Windows Workflow Foundation(WF)
  - Introducing Windows Workflow Foundation
  - Programming workflows in WF
  - Writing custom activities in WF

### Grading Policy

Each lesson will include a lesson review exam along with an assignment. Students will successfully complete this course by mastering all learning outcomes with 70% or higher overall grade.

### Course Outcome:

Upon completion of this course, the student will be able apply technical knowledge and perform specific technical skills, including:

1. Successful students will able to design web applications using ASP.NET
2. Successful students will be able to use ASP.NET controls in web applications.
3. Successful students will be able to debug and deploy ASP.NET web applications
4. Successful students will be able to create database driven ASP.NET web applications and web services

### Assessment Guide

Lesson 1 Assignment	1
Lesson 1 Exam	9
Lesson 2 Assignment	1
Lesson 2 Exam	8
Lesson 3 Assignment:	1
Lesson 3 Exam	8
Lesson 4 Assignment	1

Lesson 4 Exam	8
Lesson 5 Assignment	1
Lesson 5 Exam	9
Lesson 6 Assignment	1
Lesson 6 Exam	10
Lesson 7 Assignment	1
Lesson 7 Exam	9
Lesson 8 Assignment	1
Lesson 8 Exam	9
Lesson 9 Assignment	1
Lesson 9 Exam	10
Lesson 10 Assignment	1
Lesson 10 Exam	10
Lesson 11 Assignment	1
Lesson 11 Exam	10
Lesson 12 Assignment	1
Lesson 12 Exam	10
Lesson 13 Assignment	1
Lesson 13 Exam	9
Final Exam	117
<b>Total Points:</b>	<b>249</b>

## **Recommended Books**

Adobe Photoshop

Adobe Photoshop CS4

Adobe Photoshop CS4 Classroom in a Book