



COURSE SYLLABUS

.NET-Technologies

Industrial Training

(4 MONTHS)



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Target Audience

This course is specially designed for the B.Tech/B.E, M.Tech/M.E and all other IT related Graduates and Post Graduate students who are interested in learning language-neutral platform .NET framework.

Mission

Professionalism has conquered the job scenario and companies seek for well qualified, professional and skilled manpower. Keeping in view this demand of companies we groom students in such a way that they will be second to none. Quality Education and Performance Oriented Training is our motto.

Course Overview

This course covers extensively the programming and object-oriented techniques of .NET framework. It introduces students to the fundamentals of the .NET technology and syntax, major class libraries and prepares them to begin development of business applications. It is interspersed with step-by-step exercises illustrating the concepts as they are explained.

Live Project Work

Live project is the phase when you finally implement most of the things that you have learnt during your software training. Software development is more than just coding. Before you write even a single line of code, it requires careful analysis of the requirements, gathering information, preparing the necessary documentation which requires understanding the live project using Software Development Life Cycle. So you have to learn tricks to produce bulk output on time maintaining the right design quality or coding standard. That is the significance of Live Project Training. We assure that our Live Project Training will impart the confidence in students to work on real time projects.

Add on Programs

- Personality Development
- Listening Skills
- Communication Skills
- Interview Skills
- Group Discussion

- Topics Presentation
- Awareness of IT Trends
- Aptitude Tests
- Technical Tests
- Mock Interview

This course covers concepts of software engineering. It intends to lay a foundation for software designing and professional practice by conveying fundamental knowledge about software development process, requirements analysis, design techniques, and testing methods. The course emphasizes on modeling skills with the Unified Modeling Language (UML).

Section 1: Overview of Software Development

- 1.1 Software Engineering Concepts
- 1.2 Software Engineering Development Activities
- 1.3 System Development Models and Approaches
- 1.4 Software Process and Project Management

Section 2: Software Development Life Cycle

- 2.1 Requirement Elicitation
- 2.2 Analysis
- 2.3 System Design
- 2.4 Object Design
- 2.5 Implementation
- 2.6 Testing

Section 3: UML

- 3.1 Introduction
- 3.2 Need of UML
- 3.3 Use Case Driven Object Oriented Analysis
- 3.4 Use Case Model
- 3.5 Use Case Diagram
- 3.6 Activity Diagram
- 3.7 Sequence Diagram
- 3.8 Collaboration Diagram
- 3.9 Class Diagram

Section 4: Project Development Models

- 4.1 Waterfall
- 4.2 V model
- 4.3 . Prototype model
- 4.4 Spiral model

PROGRAMMING LANGUAGE (C# AND VB)

Course Description:

This course has been designed to meet the requirements of the software industry and helps the programmers who interested in learning how to develop .Net technology applications and the professionals interested in entering a career in application development or a software project management using .Net technology.

Section 1: Introduction to .NET

- 1.1 Evolution of .NET
- 1.2 What's New in .NET
- 1.3 The .NET Framework and the Common Language Runtime

Section 2: .NET Programming

- 2.1 Principles of Programming
- 2.2 Variables and Data Types, Operators, Conditionals and Loops
- 2.3 Arrays, String Handling and Procedures or functions.

Section 3: Object Oriented Programming

- 3.1 Introduction to Object Oriented Programming
- 3.2 Classes and Objects
- 3.3 Abstraction, Encapsulation, Inheritance and Polymorphism
- 3.4 Constructors and Destructors
- 3.5 Overloading, Overriding, and Shadowing.
- 3.6 Class Libraries and Namespaces ,Exception Handling and Events

Section 4: Collections, Generics and Threading

- 4.1 Collections, ArrayList and Dictionaries and Hashtables
- 4.2 Generic Collection Overview
- 4.3 Generic Collection Classes
- 4.4 Manipulating Threads

Section 5: Graphics and File Handling

- 5.1 Graphics Class ,Pen Class and Brush Class
- 5.2 Handling Images
- 5.3 File Stream Class
- 5.4 File, Directory , Directory Info and Drive Info Class

Section 6: Data Access with .NET

- 6.1 ADO.NET Overview
- 6.2 Managing Connection String, Executing Commands and Calling Stored Procedures
- 6.3 Dataset, Data Reader and Data Adaptor
- 6.4 Data Providers

Section 7: Windows Forms

- 7.1 Creating Window Applications
- 7.2 MDI Applications
- 7.3 Handling Mouse Events and Keyboard Events
- 7.4 Form Controls

Section 8: Windows Presentation Foundation (WPF)

- 8.1 Overview Of WPF Concepts and Features
- 8.2 Creating a Simple WPF Application
- 8.3 Event Handling in WPF
- 8.4 Creating a WPF User Interface
- 8.5 Handling Mouse Events and Keyboard Events

Section 9: Windows Communication Foundation (WCF)

- 9.1 Overview Of WCF Concepts and Features
- 9.2 Creating a Simple WCF Services

Section 10: Model View- View-View Model Design (MVVM)

- 10.1 Overview Of MVVM
- 10.2 MVVM Application Structure
- 10.3 Creating a Simple MVVM Application
- 10.4 MVVM Programming Techniques.

Section 1: HTML5- The Static Web Page Creation

- 1.1 HTML5 Introduction
- 1.2 Structure
- 1.3 Elements
- 1.4 Semantics
- 1.5 Audio & Video
- 1.6 Section & Article
- 1.7 Canvas, Aside
- 1.8 Drag & Drop
- 1.9 Forms & Form Elements

Section 2: CSS 3 - The Presentation Semantics

- 2.1 CSS Properties, Selectors, Style Declaration Types
- 2.2 Colors, Backgrounds, Text and Fonts
- 2.3 Images, Links, Tables and List
- 2.4 Borders, Padding, Margin
- 2.5 Cursor, Dimension, Scrollbars, Visibility and Positioning
- 2.6 Pseudo class & Elements, @Rules(import, font-face, charset)
- 2.7 Filters, Media Types, Printing and Layouts

Section 3: JavaScript - The Interpreted Programming Language

- 3.1 Interpreted Programming Languages
- 3.2 Integrating JavaScript with HTML
- 3.3 Variables in JavaScript
- 3.4 Operators in JavaScript
- 3.5 Expressions in JavaScript
- 3.6 Arrays in JavaScript
- 3.7 Handling Loops & Decision structures
- 3.8 Executing Conditional statements
- 3.9 Working with Functions

Section 4: jQuery - Write Less Do More...

- 4.1 Understanding jQuery
- 4.2 jQuery Selectors
- 4.3 Event Manipulation Methods
- 4.4 Sliding, Easing, Fading, Toggling
- 4.5 jQuery and AJAX calls
- 4.6 JSON

Section 5: Bootstrap

- 5.1 Introduction to Bootstrap
- 5.2 Bootstrap Grid System
- 5.3 Creating Layouts with Bootstrap
- 5.4 Bootstrap CSS - Understanding the CSS
- 5.5 CSS Customization / Skins
- 5.6 Responsive Web design with Bootstrap
- 5.7 Single Page Responsive site with Bootstrap
- 5.8 Bootstrap Layout Components
- 5.9 Bootstrap Plug-ins :
 - ✓ Transition
 - ✓ Modal
 - ✓ Dropdown
 - ✓ Scrollspy
 - ✓ Tab
 - ✓ Tooltip
- 5.10 Building Websites with Bootstrap

Section 6: AngularJS

- 6.1 AngularJS Introduction
- 6.2 Single Page Application (SPA)
- 6.3 Directive, Filters and Data Binding
 - ✓ What are Directives?
 - ✓ Using Directives and Data Binding Syntax
 - ✓ Data-Binding Example using AngularJS Directives
 - ✓ Iterating with the ng-repeat Directive
 - ✓ ng-repeat Example
 - ✓ The AngularJS API Reference for Directives
 - ✓ Using Filters
 - ✓ Using Filters Demo
- 6.4 Views, Controllers and Scope
- 6.5 Modules, Routes And Factories
 - ✓ Creating a Module
 - ✓ Creating a Controller in a Module
 - ✓ The Role of Routes
 - ✓ Defining Routes
 - ✓ Defining Routes Demo
 - ✓ Using Factories and Services
 - ✓ The Role of the Factory

Course Description:

The content of this course is a comprehensive solution that moulds you to an ASP.NET specialist by providing a combination of on hand labs and the training provided in the class. It helps the trainee to learn and develop various ASP.NET technology applications that definitely meets the current industry needs.

Section 1: Introduction to .NET

- 1.1 Evolution of .NET
- 1.2 Overview of .NET Framework 4.5
- 1.3 The .NET Framework and the Common Language Runtime

Section 2: .NET Programming

- 2.1 Principles of Programming
- 2.2 Variables and Data Types, Operators, Conditionals and Loops
- 2.3 Arrays, String Handling and Procedures or functions.

Section 3: Object Oriented Programming

- 3.1 Introduction to Object Oriented Programming
- 3.2 Classes and Objects
- 3.3 Abstraction, Encapsulation, Inheritance and Polymorphism
- 3.4 Constructors and Destructors
- 3.5 Overloading, Overriding, and Shadowing.
- 3.6 Class Libraries and Namespaces, Exception Handling and Events

Section 4: Developing Web Application

- 4.1 File System, HTTP, FTP
- 4.2 File Types in ASP.NET
- 4.3 ASP.NET Page Directives and Master Pages
- 4.4 State Management-Application, Session, View States and Cookies
- 4.5 Cross-Page Posting ,Query String and Post back
- 4.6 Standard Controls (I) and (II)
- 4.7 Navigation Controls and Validation Controls
- 4.8 Master Pages and Themes

Section 5: ADO.NET and XML

5.1 ADO.NET

5.2 Managing Connection String, Executing Commands and Calling Stored Procedures

5.3 Dataset, Data Reader and Data Adaptor

5.4 XML basics and XML Classes

Section 6: LINQ Queries

6.1 Introducing LINQ Queries

6.2 LINQ to Objects

6.3 LINQ to ADO.NET

6.4 LINQ to XML

6.5 LINQ to Dataset

Section 1: ASP.NET AJAX Applications

- 1.1 Introduction to AJAX
- 1.2 ASP.NET Ajax Architecture
- 1.3 ASP.NET Ajax Control Toolkit and Ajax Library

Section 2: ASP.NET Web Services

- 3.1 Introducing Web Services
- 3.2 Code Model of ASP.NET Web Services
- 3.3 ASP.NET AJAX and Web Services

Section 3: ASP.NET MVC 5 Framework

- 3.1 Model-View-Controller Architecture
- 3.2 Strongly-Typed Views
- 3.3 Urls And Action Methods
- 3.4 Layout / Mvc Master Page
- 3.5 Partial Views
- 3.6 Routing Mechanism
- 3.7 Viewdata, Viewbag, TempData & Session Variables

Section 4: Razor View Engine

- 4.1 Getting Started with Razor
- 4.2 Razor Design Goals
- 4.3 Implementing a Razor View
- 4.4 Razor Syntax
- 4.5 Razor Helper Method syntax
- 4.6 Accessing Model Data in Razor Views

Section 5: Reports

- 5.1 Overview of Crystal Reports
- 5.2 Creating Crystal Reports
- 5.3 Overview of Microsoft Report Viewer
- 5.4 Adding Database or Table to a Report
- 5.5 Report Viewer Controls

Section 6: Payment Gateway, E-mail and Social Media Networks

- 6.1 Integration of payment gateway
- 6.2 Integrating emails to web application
- 6.3 Integrating social media networks to web application

Section 7: FTP Management/Web Hosting

- 7.1 Set up a domain and hosting account
- 7.2 Understanding FTP
- 7.3 Setting up FTP Server (Live)
- 7.4 Uploading and downloading FTP contents

Section 8: Web Security

- 8.1 Data Validation
- 8.2 SQL Injection
- 8.3 Cross Site Scripting

Section 9: Search Engine Optimization(SEO)

- 9.1 Onsite Optimization Basics
- 9.2 Coding Best Practices
- 9.3 Title Tag Optimization
- 9.4 Keywords
- 9.5 Meta Tags Optimization
- 9.6 Headers Optimization SEO Content Writing
- 9.7 Page Speed Optimization Tool

SQLSERVER

Section 1: Relational Database Basics

- 1.1 Brief History of SQL Server
- 1.2 Relational Databases and Popular Databases
- 1.3 SQL Statements

Section 2: Data Manipulation Language (DML)

- 2.1 INSERT
- 2.2 UPDATE
- 2.3 DELETE
- 2.4 SELECT

Section3: Data Definition Language (DDL)

- 3.1 CREATE
- 3.2 ALTER
- 3.3 DROP

Section4: Subqueries, Joins and Unions with SQL Server

- 4.1 Order By, Like , And & Or, Where, Between
- 4.2 Joins & Unions
- 4.3 Aggregate Functions and Grouping

Section 5: Constraints and Normalization

- 5.1 Understanding Primary and Foreign Keys
- 5.2 Understanding Database Normalization
- 5.3 Views and Triggers

Live Project (The Mapping of what you learn...)

A software development process provides a basis for the organized production of software, using a collection of predefined techniques and notations. The process starts with the formulation of the problem, and then continues through analysis, design and implementation.

Development Stages:

1. System Conception

Conceive an application and formulate tentative requirements. It deals with genesis of an application.

2. Analysis

Analysis focuses on creation of models. It specifies what must be done, not how it should be done. Developers must fully understand the problem before addressing the additional complexities of design. During analysis developers consider the available sources of information and resolve ambiguities.

3. System Design

During system design, the developer makes strategic decisions with broad consequences. The system designer must understand how a new system interacts with other system, and the system must support future modifications

4. Class Design

Developer expands and optimizes analysis models there is a shift in emphasis from application concepts toward computer concepts. Developers choose algorithms to implements major system functions.

5. Implementation

Implementation is the stage for writing the actual code. Developers map design elements to programming language and database code.

6. Testing

During testing, Testers once again revisit the original business requirements and verify that the system delivers the proper functionality. It also uncovers the accidental errors that have been introduced.