



Certificate Course Program

Standards/ Curriculum Format

for

Web Application Development Using DOT Net

Course Duration: Three Months



Course Structure and Requirements

Course Title: Web Application Development Using DOT Net

Course Objectives:

- a) This course is specially designed to provide technical knowledge and skills to cope with the requirement of Web Developer occupations of the Dot Net sector. The course will be implemented to ensure at least 80% of total contact hours on practical/hands on skills training or practice and 20% trade/ occupations related theory including OHS and soft modules;
- b) The course is designed to enable trainees to acquire a range of technical and vocational, practical, personal and organizational skills valued and utilized both within and beyond the workplace;
- c) The course is designed to meet the required competencies of the occupations needed in the labor market in and outside the country;

Course Outline

Name of the Course	Duration of Course
Web Application Development Using Dot NET	1. Three days per week 2. 3 Hours per day

Module 1: Basic C#

Sl No	Unit Code	Unit of Competency (UoC)Title
Generic- Compulsory		
1	DOTNET-M1-GC-01	How to keep a variable in computer memory.
2	DOTNET-M1-GC-02	Naming convention of C# code
3	DOTNET-M1-GC-03	Understand how a program is run in a computer in .Net environment
4	DOTNET-M1-GC-04	Understand array mechanism for keeping a series of data in computer memory
5	DOTNET-M1-GC-05	Traverse an array to get each of its item for further processing
6	DOTNET-M1-GC-06	Apply linear search for finding a particular item from a series
7	DOTNET-M1-GC-07	Apply quick sort algorithm for ascending or descending ordering of a series of data
Occupation Specific Knowledge(trade theory) –Compulsory		
8	DOTNET-M1-SK-01	Understand anatomy of a C# program and Visual studio IDE
9	DOTNET-M1-SK-02	Apply logic using if-then-else for checking conditions of user input
10	DOTNET-M1-SK-03	Iterate through series of data finding each of its item
11	DOTNET-M1-SK-04	How to keep data in an array and find them later
12	DOTNET-M1-SK-05	Traverse a series of data using foreach loop
13	DOTNET-M1-SK-06	Work with collection classes : ArrayList, Array to get benefits over array
14	DOTNET-M1-SK-07	Use Stack, Queue data structure for solving particular problem
15	DOTNET-M1-SK-08	Use hashtable and dictionary for solving dictionary type problem.
Occupation Specific Skills(practical/demonstration)- Compulsory		
16	DOTNET-M1-SS-01	Declare and assign a string type variable.
17	DOTNET-M1-SS-02	Show value of a variable in console
18	DOTNET-M1-SS-03	Take input from user and display it in console application.
19	DOTNET-M1-SS-04	Take user name from user and show it in a messagebox
20	DOTNET-M1-SS-05	Control business logic using if-then-else
21	DOTNET-M1-SS-06	Make a simple arithmetic calculator by which user can add, subtract, divide and multiply two number.
22	DOTNET-M1-SS-07	Make an application where user will input data in a range and the data between this range will be shown in listbox
23	DOTNET-M1-SS-08	Create an application where user will enter as many name as (s)he wants. After that user will search any of given input data.
24	DOTNET-M1-SS-09	Create an application where user will input some persons' name and after that user will want to sort these name in ascending or descending order
25	DOTNET-M1-SS-10	Create an application which will keep persons' name in a file and show these in a listbox
26	DOTNET-M1-SS-11	Update the above application so that user can search a name and edit it, if (s)he wants.



Module 2: OOP basics

SI No	Unit Code	Unit of Competency (UoC)Title
Generic Compulsory		
1	DOTNET-M2-GC-01	Encapsulate your data and its functionality
2	DOTNET-M2-GC-02	Define association relationship
3	DOTNET-M2-GC-03	Understand the essence of inheritance relationship
Occupation Specific Knowledge(trade theory) –Compulsory		
4	DOTNET-M2-SK-01	Find an object from problem domain
5	DOTNET-M2-SK-02	Keep some field, property, method inside a class
6	DOTNET-M2-SK-03	Create a class with the collection of another class in its field
7	DOTNET-M2-SK-04	Define one-to-one, one-to-many association relationship between objects
8	DOTNET-M2-SK-05	Define static class and method from real life example
Occupation Specific Skills(practical/demonstration)- Compulsory		
9	DOTNET-M2-SS-01	Create user defined type and create object from it
10	DOTNET-M2-SS-02	Create association relationship between two classes
11	DOTNET-M2-SS-03	Create inheritance relationship between classes
12	DOTNET-M2-SS-04	Create in-memory department application
13	DOTNET-M2-SS-05	Make an in-memory Queue management system

Module 3: Web basics (HTML, CSS, JavaScript)

SI No	Unit Code	Unit of Competency (UoC)Title
Generic Compulsory		
1	DOTNET-M3-GC-01	How web works.
2	DOTNET-M3-GC-02	Understand HTML and The Web, HTML Document Structure,
3	DOTNET-M3-GC-03	What and why: CSS
4	DOTNET-M3-GC-04	Why do we need javascript
Occupation Specific Knowledge(trade theory) –Compulsory		
5	DOTNET-M3-SK-01	HTML5 Fundamentals, HTML Foundations
6	DOTNET-M3-SK-02	HTML5 Semantic Page Elements, HTML5 Inline Semantic Elements
7	DOTNET-M3-SK-03	HTML5 New Form Elements, HTML5 New Form Element Attributes, HTML5 New Form Input Types
8	DOTNET-M3-SK-04	Behind the Canvas, Drawing on Canvas
9	DOTNET-M3-SK-05	CSS Basic, Up and Running with Selectors, CSS Position
10	DOTNET-M3-SK-06	CSS Text, Managing Details in Style Sheets
11	DOTNET-M3-SK-07	CSS3 And Modern Web Design, Building A Solid Cross-Browser Template

Occupation Specific Skills(practical/demonstration)- Compulsory		
12	DOTNET-M3-SS-01	Create a HTML template by an editor and open it by any of browser application
13	DOTNET-M3-SS-02	Put some HTML Tags (for heading, paragraph, break, bold, italics, HTML lists) in a HTML page
14	DOTNET-M3-SS-03	Create a menu using using HTML tags
15	DOTNET-M3-SS-04	Define the color and font using CSS3
16	DOTNET-M3-SS-05	Make a basic web page layout using HTML5 and CSS3
17	DOTNET-M3-SS-06	Insert JavaScript in your page for making a simple calculator
18	DOTNET-M3-SS-07	Validate logic using javascript
19	DOTNET-M3-SS-08	Make a web page layout (professional look) for student registration process

Module 4: Working with database: MS SQL Server

SI No	Unit Code	Unit of Competency (UoC)Title
Occupation Specific Knowledge(trade theory)-Compulsory		
1	DOTNET-M4-GC-01	Understand the necessity of relational database for keeping user data.
2	DOTNET-M4-GC-02	Find out entities and their attributes from a real life scenario
3	DOTNET-M4-GC-03	Define the relationship between entities and draw an E-R diagram
4	DOTNET-M4-GC-04	Create schema from an E-R diagram
5	DOTNET-M4-GC-05	Understand INSERT, SELECT, DELETE & UPDATE sql for basic relational database operation
6	DOTNET-M4-GC-06	Apply where for filtering data retrieving from a table
7	DOTNET-M4-GC-07	Apply inner join to retrieve data from one more table
8	DOTNET-M4-GC-08	Understanding aggregate function and advanced queries
Occupation Specific Skills(practical/demonstration)- Compulsory		
9	DOTNET-M4-SK-01	Create a database in MS SQL Server
10	DOTNET-M4-SK-02	Create a Table and fields to keep data of an entity
11	DOTNET-M4-SK-03	Define the relationship between tables for data integrity
12	DOTNET-M4-SK-04	Create view to retrieve data from database
13	DOTNET-M4-SK-05	Create reports by writing complex queries
14	DOTNET-M4-SK-06	Create E-R, Schema, DB and queries for an simple application



Module 5: Web Programming basics using ASP.Net web form

SI No	Unit Code	Unit of Competency (UoC)Title
Occupation Specific Knowledge(Trade theory) –Compulsory		
1	DOTNET-M5-SK-01	Understand Web design fundamentals
		ASP.Net web form life cycle
2	DOTNET-M5-SK-02	Use ASP.Net server side controls in your web application
3	DOTNET-M5-SK-03	State management of ASP.Net
4	DOTNET-M5-SK-04	How to put JavaScript in aspx web page
5	DOTNET-M5-SK-05	Working with server side programming
6	DOTNET-M5-SK-06	Understand user management in ASP.net application
7	DOTNET-M5-SK-07	Why and what is user control
Occupation Specific Skills(practical/demonstration)- Compulsory		
8	DOTNET-M5-SS-01	How ASP.Net Web Forms works? Demonstrate viewstate, session and application state.
9	DOTNET-M5-SS-02	Make UI layout for student information entry.
10	DOTNET-M5-SS-03	Make a web application for keeping and searching student information. Use three layer architecture concept in your application.
11	DOTNET-M5-SS-04	Make an application for user sign up, sign in, sign out. Use three layer architecture concept in your application.
12	DOTNET-M5-SS-05	Make your above application responsive

Module 6: Software Project management & project work

SI No	Unit Code	Unit of Competency (UoC)Title
Generic- Compulsory		
1	DOTNET-M6-GC-01	Key principles of Agile project management
Occupation Specific Knowledge(trade theory)-Compulsory		
2	DOTNET-M6-SK-01	Understand iteration and release of a project
3	DOTNET-M6-SK-02	Understand user story
4	DOTNET-M6-SK-03	Estimate a story
5	DOTNET-M6-SK-04	Understand the essence of burndown chart
6	DOTNET-M6-SK-05	Familiarize with trello.
7	DOTNET-M6-SK-06	Define user stories of your project work
Occupation Specific Skills(practical/demonstration)- Compulsory		
8	DOTNET-M6-SS-01	Create project in Trello
9	DOTNET-M6-SS-02	Create card in trello
10	DOTNET-M6-SS-03	Assign a card to a group member
11	DOTNET-M6-SS-04	Work with project stories
12	DOTNET-M6-SS-05	Group project presentation