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| **Course – 43 Title: Software Development Project-1** |  |
| **Course No.: CCE 310 Credit : 1.50 Contact Hours: 3.00** | **Total Marks: 100** |

**11.1 Rationale:**

**Computer Engineers should be competent in Application software through Object oriented language This C#.net /ASP.net/Java Programming Knowledge is valuable to both beginners and advanced developers that already have experience in developing applications software .**

**11.2 Objectives:**

At the completion of this course, the student will be able to:

* Create and populate Windows Forms.
* Create and use user controls in a Windows Forms application
* Create menus in a Windows Forms application
* Add code to form and control event procedures in a Windows Forms application
* Create Multiple Document Interface (MDI) applications
* Validate user input in a Windows Forms application
* Bind Windows Forms applications to various data sources by using Microsoft ADO.NET
* Use .NET and COM components in a Windows Forms application
* Debug a Windows Form Application
* Print documents in a Windows Forms application
* Localize a Windows Forms application
* Incorporate accessibility features to a Windows Forms application
* Deploy and Secure a Windows Form application

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| **11.3**  **Learning Outcomes** | **11.4**  **Course Content** | **11.5**  **Teaching Strategy/ Learning Experience** | **11.6 Assessment Strategy** |
| To Apply OOP  Knowledge | **C#.NET Language Basics** Data Types, Type Conversion, Boxing & Unboxing, Conditional Statements, Looping, Methods in C#, Properties, Arrays, Indexers, Structures, Enumerations | Group Assignment, Panel Discussion, Problem based Learning | Matching Type, Peer-Rating |
| To Apply OOP  Knowledge | **Memory Management**  . Garbage Collector, Stack.and Heap,System. GC Class, | Problem Based Learning, Project, Inquiry –based Learning | Practical Exam, Matching Type |
| To Apply OOP  Knowledge | OOP Concepts  Encapsulation,Inheritance, Polymorphism, Class and Object  Constructors, Dynamic types  Optional parameters, Names &optional arguments, Covariant generic type parameters, Destructors, Method overloading Method overriding, Early binding, Late Binding, Abstract Classes  Abstract Methods, Interfaces  Multiple Inheritance, Generic classes, Static classes, Static constructors, Object initialize | Group Assignment ,Panel Discussion | Observation |
| To Apply OOP  Knowledge | **Exception Handling**  System Defined Exceptions, Custom Exceptions, Try, Catch, Finally, Throwing exceptions | Group Assignment ,Panel Discussion | Observation |
| To Apply OOP  Knowledge | **Delegate**  Function Pointers, Multi cast delegates  **File Handling**  System .IO namespace, File stream  Stream Reader, Stream writer, Fileinfo, Directory info, Drive Info | Problem-based Learning, Demonstration, Project  /Assignment | Group Exercise, Observation, Inventories |
| To Apply .NET  Knowledge | **CONTENT**  **Developing Microsoft.NET Applications for Windows (Visual C#.NET)**  Creating a Form  Adding Controls to a Form   Creating an Inherited Form   Organizing Controls on a Form   Creating MDI Application  **Working with Controls**  Creating an Event Handler for a Control  Using Windows Forms Controls  Using Dialog Boxes in a Windows Forms Application  Adding Controls at Run Time  Creating Menus  Validating User Input  **Using Data in Windows Forms Applications**  Adding ADO.NET Objects to and Configuring ADO.NET Objects in a Windows Forms Application  Accessing and Modifying Data by Using DataSets  Binding Data to Controls  Overview of XML Web Services  Persisting Data | Problem-based Learning, Demonstration, Project  /Assignment | Group Exercise, Observation, Inventories |
| To Apply .NET  Knowledge | **CONTENT Developing Microsoft.NET Applications for Windows (Visual C#.NET)**  Printing and Reporting in Windows Forms Applications Lessons  Printing From a Windows Forms Application  Using the Print Preview, Page Setup, and Print Dialogs  Constructing Print Document Content by Using GDI+  Creating Reports by Using Crystal Reports  Deploying Windows Forms Applications   * .NET Assemblies * Deploying Windows Forms Applications | Problem-based Learning, Demonstration, Project  /Assignment | Group Exercise, Observation, Inventories |
| To Apply Database  Knowledge | **LNQ Course Outline**  **Introduction to LINQ and ADO.NET Entity Framework.**  LINQ expressions ,Using via extension methods ,Filtering  Sorting ,Aggregation ,Skip and Take operators ,Joins , Query, Lambda expressions ,  **Data Projection**  Single result value,Existing types  Anonymous types ,Grouping | Problem-based Learning, Demonstration, Project  /Assignment | Group Exercise, Observation, Inventories |
| To Apply ASP.NET  Knowledge | **ASP.NET INTRODUCTION**  Difference Between ASP and ASP.NET ,Architecture  Inline Technique & Code-Behind Technique,Code Render Blocks  Server Controls ,Page Basics, Page lifecycle, Post back Request  View State, Directives  **PROGRAMMING WITH SERVER CONTROLS**  Web Server Controls  Basic Web Controls, List Controls, Data Controls,Adv Controls, User Controls, Master Page and Content Page.  [**Validation Controls**](http://www.vtc.com/products/chLessons31)  Understanding Validation  Client or Server Site Validation  Required Filed Validator  Rang Validator, Regular Expression Validator, Compare Validator, Custom Validator  Validator Summary.  **CONTENT**  **Developing Microsoft.NET Applications for Web (ASP.NET using C#.NET)**  **STATE MANAGEMENT WITH ASP.NET**  Context, View State ,Cookie State  Session State,Session Tracking  Application Object, Session and Application Events  **ADO.NET AND ASP.NET**  Working with Data Controls  GridView, -Inserting, Updating, Deleting,-Sorting in Data Grid -Paging in Data Grid, DataSource Controls,Dataset,DetailsView  FormView,Data List,Repeater Control, Crystal Reports  **ADO.NET PROGRAMMING**  Architecture, DataReaders and DataSets, Command Object  Transaction Programming  Procedure Execution  Data Adapter and Data Set, Data Tables, Data Relation,Data Views  Updating Dataset |  |  |
| Project | Project, Review & Exam | Problem-based Learning, Demonstration, Project  /Assignment | Group Exercise, Observation, Inventories |

**RECOMMENDED BOOKS AND PERIODICALS**