Course: 404: .NET Programming

Course Code	**404**
Course Title	.NET PROGRAMMING
Credit	4
Teaching per Week	4 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	June 2018
Medium of Instruction	English
Purpose of Course	This syllabus has been prepared for the beginners to help them understand basic .Net programming. After completing this, students will get a moderate level of expertise in .Net programming from where - they can take themselves to next levels.
Course Objective	- To make students understand .Net as simple, modern, object-oriented computer programming language developed by Microsoft to combine the power of .NET Framework and the CLR with the productivity benefits. - To make students understand basic .Net programming and will also take through various advanced concepts related to .Net programming language.
Pre-requisite	Students are expected have concepts related to Programming techniques using Object Oriented.
Course Out come	On completion of this course, students will be able to understand the basic concepts of .Net framework and importance of various coding techniques. This course will also help students understand the role of CLR . After successful completion students will be able to follow programming methodology and how to apply it for their application.

Course Content	**Unit 1. Overview of Microsoft .NET Framework**
	    1.1. The .NET Framework
	        1.1.1. Managed Code MSIL, Metadata and JIT Compilation - Automatic Memory Management.
	    1.2. The Common Language Runtime (CLR)
	    1.3. The .NET Framework class Library
	
	Unit 2. Programming in Visual basic .net
	    2.1. IDE
	    2.2. Variables and Data Types
	        2.2.1. Boxing and Unboxing
	        2.2.2. Enumerations
	        2.2.3. Data Type Conversion Functions
	        2.2.4. Statements
	    2.3. String & Date Functions and Methods
	    2.4. Modules, Procedures and Functions
	        2.4.1. Passing variable number of arguments
	        2.4.2. Optional arguments
	    2.5. Using Arrays and Collections
	    2.6. Control Flow Statements
	        2.6.1. Conditional Statements
	        2.6.2. Loop Statements
	        2.6.3. MsgBox and InputBox
	
	Unit 3. Introduction to Windows controls
	    3.1. Working with Tool Box Controls
	        3.1.1. Common controls - Label, Text Box, Button, Check Box, Radio Button, Date Time Picker, List Box, Combo box, Picture Box, Rich Text Box, Tree View,

	Tool Tip, Progress bar, Masked Text box, Notify Icon, Link Label, Checked List box
	    3.1.2. Container Controls
	    3.1.3. Data - Data Set, Data Grid
	    3.1.4. Component - Image list, error provider, Help provider, Timer
	  3.2. Working with Menus and Dialogue Boxes
	  3.3. Exception Handling
	    3.3.1. Structured Error Handling
	    3.3.2. Unstructured Error Handling
	
	Unit 4. Object Oriented Programming
	  4.1. Creating Classes, Object Construction & Destruction
	    4.1.1. Properties, Methods, Events
	    4.1.2. Access Specifiers: Public, Private, Protected, Protected Friend
	    4.1.3. Me, MyBase and MyClass keywords
	  4.2. Abstraction, Encapsulation & Polymorphism
	  4.3. Interfaces & Inheritance
	
	Unit 5. Database access using ADO.NET
	  5.1. Visual Database Tools
	  5.2. ADO .NET Object Model
	  5.3. ADO .NET Programming

Reference Book	1. Visual Basic .NET Programming (Black Book) - By Steven Son Holzner, DreamTech Publication 2. Mastering Visual Basic.NET by Evangelos Petroutsos BPB Publication 3. Moving to VB.NET: Strategies, Concepts, and Code - by Dan Appleman – Apress Publication 4. Microsoft Visual Basic .NET Step by Step - by Michael Halvorson, PHI Publication 5. Database Programming with Visual Basic.NET and ADO.NET - by F. Scott Barker – Sams Publication 6. Beginning .NET Web Services Using Visual Basic .NET - by Joe Bustos and Karlli Watson, Wrox Publication 7. .NET – Complete Development Cycle - by G. Lenz, T. Moeller, Pearson Education 8. Professional VB.NET, 2nd Edition - by Fred Barwell, et al – Wrox Publication
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment. 70% External assessment.