

Branch Name:	Computer Engineering / Information Technology
Program Code:	ET404 / ET407
Course Title:	.Net Programming
Course Code:	2ET4040404
Pre-requisite Course:	---

Course Objectives:

1. The course is designed to guide the beginning programmer in developing applications using Visual Basic .Net (VB.NET) programming languages.
2. To design user interface, code, test and debug vb.net applications.
3. Students will be introduced to object-oriented programming concepts along with the ADO.NET and VB.NET syntax to implement them.
4. Upon the completion of this course, students will know how to create and modify simple ADO.NET and VB.NET language applications, and will have the tools to create more complex examples.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
3	0	4	5	60	40	40	60	200

Course Contents:

Unit No	Topic	Total Hours	Weightage (%)
1.	Introduction to Microsoft .NET framework and VB.Net: 1.1 Overview of Microsoft .NET Framework 1.2 The .NET Framework components 1.3 The Common Language Runtime (CLR) Environment. 1.4 The .NET Framework class Library. 1.5 Visual basic language concept: variables, Constants, Data Types, Operators, Control Structures and loops, Arrays: single and multidimensional array, declaring, dynamic array	06	14%
2.	Introduction to Windows Common Controls: 2.1 Working with Form Properties: appearance, behavior, layout, windows style etc., methods and events 2.2 Differentiate procedure oriented, object oriented and event driven programming 2.3 Input box, Message box Working with Common Tool Box Controls: Label & button (Properties: flat style, image, image align etc.), Textbox (Properties: auto size, max length, multiline, read only, word wrap etc.), Numeric Up Down (text align, updown align, value, intercept arrow keys, decimal places, increment, maximum, minimum etc.) Check Box (auto check, checked, check aligned, check state, three state etc.), Radio Button (check aligned, check, auto check etc.), Group Box (grid size: width, height etc.) control and all-important methods and events.	08	20%
3.	Additional controls and Menus of Windows: 3.1 Working with other controls of tool box: Date Time Picker, List Box, Combo box, Picture Box, Rich Text Box, Progress bar, Masked Text box, Link Label, Checked List box, Scroll Bars, timer. 3.2 Working with Menus: creating menu, inserting, deleting, assigning short cut keys, popup menu.	12	28%

4.	Advanced Features of VB.Net: 4.1 Dialog Boxes: Open File Dialog, Save File Dialog, Font Dialog, Color Dialog, Print Dialog 4.2 Sub Procedures and functions: declaring, passing and returning arguments, exiting from it, pass by value and passby ref. 4.3 Exception Handling: Structured Error Handling (Try, Catch, finally) 4.4 Unstructured Error Handling (Onerror go to line, goto0, goto-1, resume next) 4.5 Multiple document interface (MDI) : MDI Parent form andchild form.	06	14%
5.	Inbuilt Functions and Database access using ADO.NET: 5.1 ADO.Net Architecture, 5.2 ADO.NET Classes 5.3 Data provider: Connection, Command, Data Reader, Data Adapter, 5.4 Data Relational Classes: Dataset, Data Table, Data rows, Data columns, Data Constraints 5.5 ADO .NET Programming: Creating a Database Application, Creating Connection to a Database using ADO.NET, Populating Data in ADO.NET, Browsing Records, Data grid view, Editing, Saving, Adding and Deleting Records using bounded and unbounded.	10	24%

Text Books:

1. Visual basic .net Author by Prajakta Mane
2. .Net Programming by Atul Prakashan

Reference Books:

	Title	Author
1	Visual Basic .net Comprehensive Concepts and Techniques	Shelly, Cashman, Quasney
2	Visual Basic .net	Steven Holzner
3	Murach's Beginning Visual Basic .NET	Anne Prince
4	Programming in Visual Basic. NET	Julia Case Bradley, Anita C. Millspaugh

List of Open-Source Software/learning website:

1. Software: Microsoft Visual Studio latest express edition
2. <http://www.homeandlearn.co.uk/NET/vbNet.html>
3. <http://msdn.microsoft.com/en-us/beginner/default.aspx>
4. Videos: <http://www.youtube.com/watch?v=hE05SqxPs9E>,
<http://www.learnvisualstudio.net>
5. http://www.tutorialspoint.com/vb.net/vb.net_basic_controls.html

Course Learning Outcomes (CLO):

After completing this course, student will be able to:

1. Explain the architecture of .Net Technology.
2. Develop single form based simple .Net applications using basic and advanced control.
3. Develop multiple form and menu based .Net applications.
4. Develop small ADO.net based database driven .Net application.
5. Implement and trouble shoot simple .Net Applications.

LIST OF PRACTICAL:

SR.No.	Experiment
1	Recognize various parts of visual basic .net IDE.
2	Observe and draw visual .net IDE layout and hands on practice to create, save and open the project
3	Write, test and debug at least 5 loop, array and operator based vb.net programs
4	Design forms and write, test and debug programs to test its various properties, methods, events
5	Write, test and debug program to test input box and message box
6	Write, test and debug applications to use textbox, label, button
7	Write, test and debug applications to use radio button, checkbox, numeric updown and group box controls

8	Write, test and debug application using date time picker, list box, combo box, picturebox
9	Write, test and debug application using rich text box, progress bar, masked text box, link label
10	Write, test and debug application using checked list box, scroll bars, timer
11	Write, test and debug applications using menu
12	Write, test and debug applications using dialog boxes
13	Write, test and debug applications using sub procedures and functions
14	Write, test and debug applications using MDI
15	Write, test and debug applications using math and string manipulation functions
16	Draw ado.net object model
17	Create and test connection using ado.net to view SQL express server/Microsoft Access data in textbox etc controls
18	Create and test connection using ado.net Oracle/other database data in textbox etc. controls
19	Create connection view controls like data-grid view controls
20	Write, test and debug small application to add, edit, search, delete record in database in bounded mode
21	Write, test and debug small application to add, edit, search, delete record in database in unbounded mode i.e. through coding

Mapping of CLO with PO and PSO

Course Learning Outcome	Program Outcomes (POs)												Program Specific Outcomes (PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1													L	L		
CLO2																
CLO3																
CLO4																
CLO5																
CLO6																

H: High, M: Medium, L: Low