

Course: 404 : .NET Programming

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| 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 2015 |
| Purpose of Course | This syllabus has been prepared for the beginners to help them understand basic VB.Net programming. After completing this, students will get a moderate level of expertise in VB.Net programming from where they can take themselves to next levels. |
| Course Objective | <p>To make students understand VB.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 that are the hallmark of Visual Basic.</p> <p>To make students understand basic VB.Net programming and will also take through various advanced concepts related to VB.Net programming language.</p> |
| Pre-requisite | The students of BCA should have skills in Programming techniques using Object Oriented Concepts. |
| Course Out come | After studying 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 particular programming methodology and how to apply it for their application. |
| Course Content | <p>Unit 1. Overview of Microsoft .NET Framework</p> <ol style="list-style-type: none"> 1.1. The .NET Framework <ol style="list-style-type: none"> 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 <p>Unit 2. Programming in Visual basic .net</p> <ol style="list-style-type: none"> 2.1. IDE 2.2. Variables and Data Types <ol style="list-style-type: none"> 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 <ol style="list-style-type: none"> 2.4.1. Passing variable number of arguments 2.4.2. Optional arguments 2.5. Using Arrays and Collections 2.6. Control Flow Statements <ol style="list-style-type: none"> 2.6.1. Conditional Statements 2.6.2. Loop Statements |

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| | <p>2.6.3. MsgBox and InputBox</p> <p>Unit 3. Introduction to Windows controls</p> <p>3.1. Working with Tool Box Controls</p> <p>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</p> <p>3.1.2. Container Controls</p> <p>3.1.3. Data - Data Set, Data Grid</p> <p>3.1.4. Component - Image list, error provider, Help provider, Timer</p> <p>3.2. Working with Menus and Dialogue Boxes</p> <p>3.3. Exception Handling</p> <p>3.3.1. Structured Error Handling</p> <p>3.3.2. Unstructured Error Handling</p> <p>Unit 4. Object Oriented Programming</p> <p>4.1. Creating Classes, Object Construction & Destruction</p> <p>4.1.1. Properties, Methods, Events</p> <p>4.1.2. Access Specifiers: Public, Private, Protected, Protected Friend</p> <p>4.1.3. Me, MyBase and MyClass keywords</p> <p>4.2. Abstraction, Encapsulation & Polymorphism</p> <p>4.3. Interfaces & Inheritance</p> <p>Unit 5. Database access using ADO.NET</p> <p>5.1. Visual Database Tools</p> <p>5.2. ADO .NET Object Model</p> <p>5.3. ADO .NET Programming</p> |
| Reference Book | <ol style="list-style-type: none"> 1. Visual Basic .NET Programming (Black Book) - By Steven Son Holzner , DreamTech Publication 2. Mastering Visual Basic.NET by Evangelos Petroustos BPB Publication 3. Moving to VB.NET : Stategies, 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 Waston, 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. |