LONDON CAPITAL COMPUTER COLLEGE

Advanced Diploma in Programming (602) – Advanced Visual Basic .Net

Prerequisites: Programming experience in C for at least six months.	**Corequisites:** A pass or higher in Diploma in Programming or equivalence.

Aim: This hands-on course examines how to utilise advanced features of the .NET framework using the VB.NET programming language in order to build sophisticated applications. The course begins by quickly examining object-oriented programming topics, including inheritance, partial classes and generics. Candidates also learn about many of the .NET interfaces and how they can take advantage of them. Candidates also learn how to manage data using .NET's object-based and generic collections. The course also illustrates how to use LINQ to make queries of collections, objects, and DataSets.

Required Materials: Recommended Learning Resources.	**Supplementary Materials:** Lecture notes and tutor extra reading recommendations.

Special Requirements: This is a hands-on course, hence practical use of computers is essential. Requires intensive lab work outside of class time.

Intended Learning Outcomes:	Assessment Criteria:	
1. Identify how to build your own classes and objects. Initialise class objects and control access to members.	1.1	Describe how to create your own classes
	1.2	Demonstrate how to create and use objects of your own classes
	1.3	Describe how to control access to object instance variables
	1.4	Demonstrate how to use keyword private
	1.5	Define how to create your own properties
	1.6	Define the use the panel control
	1.7	Describe how to use string methods padleft and substring.
2. Define collections. Analyse TabIndex and TabStop properties. Define Access keys. Describe the For Each …Next repetition statement.	2.1	Demonstrate how to create and manipulate an arraylist object
	2.2	Demonstrate how set the tabstop and tabindex properties of a control
	2.3	Describe how to create an access key for a control
	2.4	Describe how to use a for *each...next* loop to iterate through an arraylist.
3. Define the graphics object and the mouse events. Distinguish between right, left and middle mouse button.	3.1	Demonstrate how to use mouse events to allow user interaction with an application
	3.2	Identify how to handle mousedown, mouseup, and mousemove events
	3.3	Analyse how to use the graphics object to draw circles on the form
	3.4	Define how to determine which mouse button was pressed.
4. Define keyboard events (keydown, enter and backspace), menus and dialogs.	4.1	Demonstrate how to handle keyboard events
	4.2	Define how to create menus for windows applications
	4.3	Define how to use dialogs to display messages
	4.4	Define how to use the showdialog method for the font and color dialogs

	4.5	Describe how to display the font dialog to enable users to choose fonts
	4.6	Describe how to display the color dialog to enable users to choose colors.
5. Describe how to process strings. Define the fundamentals of strings. Understand how to locate, extract and replacing substrings.	5.1	Demonstrate how to create and manipulate string objects
	5.2	Describe how to use properties and methods of class string
	5.3	Identify how to search for substrings within strings
	5.4	Describe how to extract substrings within strings
	5.5	Describe how to replace substrings within strings
6. Understand how to program database applications and how to connect to databases.	6.1	Demonstrate how to connect to databases
	6.2	Identify how to view the contents of an access database
	6.3	Describe how add database controls to windows forms
	6.4	Analyse how to use the server explorer window
	6.5	Demonstrate how to use the query builder dialog
	6.6	Demonstrate how to read information from and update information in databases.
7. Describe Web servers and Internet Information Servers.	7.1	Describe how to use internet information services to serve web content to web browser clients
	7.2	Define how to request documents from a web server
	7.3	Describe how to execute an asp .net web application.
8. Describe Web controls.	8.1	Describe how to create an asp .net web application project.
	8.2	Define how to create and design aspx pages
	8.3	Describe how to use web form controls
	8.4	Identify reposition controls, using the style attribute.

Recommended Learning Resources: Advanced Visual Basic .Net

Text Books	• Advanced Programming Using Visual Basic.Net with Student CD by Julia Case Bradley. ISBN-13 9780072254914 • Advanced .NET Programming (Programmer to programmer) by Simon Robinson. ISBN-10: 1861006292
Study Manuals	BCE produced study packs
CD ROM	Power-point slides
Software	Visual Basic .Net