SYLLABUS

DIVISION: Business and Engineering Technology   **REVISED:** Fall 2015

CURRICULA IN WHICH COURSE IS TAUGHT: IST curricular or elective

COURSE NUMBER AND TITLE: ITP 212 – Visual Basic.NET II

CREDIT HOURS: 4 **HOURS/WK, LEC:** 3 **HOURS/WK, LAB:** 2 **LEC/LAB COMB:** 5

I.   **CATALOG DESCRIPTION:** Includes instruction in application of advanced object-oriented techniques to application development. Course content emphasizes database connectivity, advanced controls, web forms, and web services using Visual Basic.NET.

II.   **RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES:**
- Define business and computer information systems vocabulary relating to their occupation.
- Utilize mathematical and logical procedures for effective performance in their occupation and in society.
- List the components and processing features of the different levels of computers.
- Apply logic and reasoning to develop computer solutions to stated problems or specifications as related to the business environment.
- Prepare the documentation required to establish a computer system to solve a business application.

III.   **REQUIRED BACKGROUND:**   ITP112-Visual Basic.NET I; keyboarding skills.

IV.   **COURSE CONTENT:**
- Code apps requiring random-number generation and Enum
- Design apps using arrays
- Building classes and objects
- Coding apps that use LINQ to query List collections
- Design apps that use keyboard events, menus, dialogs and Dictionary collections
- Implement String processing in apps
- Design apps that will process sequential-access and database files
- Design apps that include exception handling routines
- Code apps that will create graphics and print
- Create basic web apps using ASP.NET
- Create a basic VSTO (Visual Studio Tools for Office) app
- Create basic Windows Phone mobile apps

V.   **THE FOLLOWING GENERAL EDUCATION OBJECTIVES WILL BE ADDRESSED IN THIS COURSE.**
        ___X___Communications   ___X___Computational and Computer Skills

___X___Learning Skills	___X___Understanding Culture and Society
___X___Critical Thinking	___X___Understanding Science and Technology
_____Wellness	___X___Interpersonal Skills and Human Relations

VI. LEARNER OUTCOMES   VII. EVALUATION

Learner Outcomes	Evaluation
Code apps requiring random-number generation and Enum • Code simulation techniques that employ random-number generation • Use class Random methods to generate random numbers • Use enumerations to enhance code readability • Read images from files	Lab exercises In class assignments Written test
Design apps using arrays • Create and initialize arrays • Store information in arrays • Access specific elements of an array • Sort arrays	Lab exercises In class assignments Written test
Building classes and objects • Create classes • Create and use objects of classes • Control access to object instance variables	Lab exercises In class assignments Written test
Coding apps that use LINQ to query List collections • Use generic collections • Use LINQ to select elements from a collections • Create and manipulate a List(Of T) object	Lab exercises In class assignments Written test
Design apps that use keyboard events, menus, dialogs and Dictionary collections • Code apps to handle keyboard events • Create menus for Windows apps • Use dialogs to display messages • Use a Dictionary to store pairs of keys and values	Lab exercises In class assignments Written test

Implement string processing in apps
   • Manipulate String objects in VB.NET apps
   • Use the properties and methods of class String
   • Search for, extract, and replace substrings within strings
	Lab exercises
	In class assignments
	Written test

Design apps that will process sequential access and database files
   • Create, read from, write to and update files
   • Use StreamReader and StreamWriter classes to read from, and write to, sequential-access files
	Lab exercises
	In class assignments
	Written test

• Use LINQ to query a sequential-access file
   • Identify characteristics of a relational database model
   • Use LINQ to retrieve and manipulate data from a database
   • Use the IDE's drag-and-drop capabilities to display database tables in apps	

Design apps that include exception handling routines
   • Use exception handling to eliminate unexpected crashes
   • Use the Try, Catch and Finally blocks to handle exceptions
   • Use the Throw statement to indicate an exception and to specify that an existing exception needs further processing
	Lab exercises
	In class assignments
	Written test

Code apps that will create graphics and print
   • Code apps that will print
   • Draw two dimensional shapes
   • Control the colors and patterns of filled shapes
	Lab exercises
	In class assignments
	Written test

Create basic web apps using ASP.NET
   • Identify basic requirements for web app development using ASP.NET
   • Code apps to handle events from a Web Form's controls
   • Create a data-driven web app using ASP.NET and LINQ to SQL
	Lab exercises
	In class assignments
	Written test

Create a basic VSTO(Visual Studio Tools for Office) app • Describe VSTO and its uses • Design a Word form • Code the 'backend' to return appropriate data on the form	Lab exercises In class assignments Written test
Create basic Windows Phone mobile apps • Describe the key facts in current mobile app development • Design a mobile GUI and code • Differentiate the differences in the IDE for Visual Basic.NET mobile development	Lab exercises In class assignments Written test