

GENERAL INFORMATION											
Name: Diane King	Phone #: 77021										
Course Prefix/Number: COP2333	Course Title: Advanced Programming Concepts using Visual Basic										
Number of Credits: 4											
Degree Type	<input type="checkbox"/> B.S. <input type="checkbox"/> B.A.S <input checked="" type="checkbox"/> A.A. <input checked="" type="checkbox"/> A.S. <input type="checkbox"/> A.A.S. <input type="checkbox"/> C.C.C. <input type="checkbox"/> A.T.C. <input type="checkbox"/> V.C.C										
Date Submitted/Revised:	Effective Year/Term: 2009-1										
<input type="checkbox"/> New Course Competency <input checked="" type="checkbox"/> Revised Course Competency											
Course to be designated as a General Education course (part of the 36 hours of A.A. Gen. Ed. coursework): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
The above course links to the following Learning Outcomes: <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Communication</td> <td><input type="checkbox"/> Social Responsibility</td> </tr> <tr> <td><input checked="" type="checkbox"/> Numbers / Data</td> <td><input type="checkbox"/> Ethical Issues</td> </tr> <tr> <td><input checked="" type="checkbox"/> Critical thinking</td> <td><input checked="" type="checkbox"/> Computer / Technology Usage</td> </tr> <tr> <td><input type="checkbox"/> Information Literacy</td> <td><input type="checkbox"/> Aesthetic / Creative Activities</td> </tr> <tr> <td><input type="checkbox"/> Cultural / Global Perspective</td> <td><input type="checkbox"/> Environmental Responsibility</td> </tr> </table>		<input type="checkbox"/> Communication	<input type="checkbox"/> Social Responsibility	<input checked="" type="checkbox"/> Numbers / Data	<input type="checkbox"/> Ethical Issues	<input checked="" type="checkbox"/> Critical thinking	<input checked="" type="checkbox"/> Computer / Technology Usage	<input type="checkbox"/> Information Literacy	<input type="checkbox"/> Aesthetic / Creative Activities	<input type="checkbox"/> Cultural / Global Perspective	<input type="checkbox"/> Environmental Responsibility
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Course Description (limit to 50 words or less, must correspond with course description on Form 102): This course provides Microsoft Visual Basic® developers with the knowledge and skills needed to develop Microsoft .NET-based applications using Visual Basic .NET. Students will learn to use advanced programming and object oriented tools to create enterprise applications for the .NET Platform and to create more traditional Visual Basic applications that take advantage of the enhancements to the language. Prerequisite: COP1332. Laboratory fee. (3 hr. lecture; 2 hr. lab)											
Prerequisite(s): COP1332	Co requisite(s):										

Course Competencies:

Competency 1: Students will demonstrate an understanding of the Microsoft .NET platform by:

1. Listing the main elements of the .NET Platform.
2. Describing the .NET Framework and its components.
3. Listing the major enhancements to Visual Basic .NET.

Competency 2: Students will demonstrate an understanding of the .Net development environment features by:

1. Describing the overall benefits of the new IDE.
2. Describing the different types of Visual Basic.NET
3. Describing project components and their structures, including their file structures.
4. Referencing external applications from a project.

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5. Viewing and setting the properties of a project.
6. Using the various windows in the IDE, including server explorer, the object browser, and the task Listing to create and debug a project.
7. Debugging a simple application.
8. Building and compiling a simple application.

Competency 3: Students will demonstrate an understanding of the .NET language and syntax enhancements by:

1. Describing the changes to data types in Visual Basic .NET.
2. Declaring and initializing variables and arrays.
3. Using shorthand syntax to assign values to variables.
4. Implementing functions and subroutines.
5. Calling the default properties of an object.
6. Using the new "Try...Catch...Finally" statement to implement structured exception handling.

Competency 4: Students will demonstrate an understanding of object-oriented design for Visual Basic.NET by:

1. Describing the basics of object-oriented design.
2. Explaining the concepts of encapsulation, inheritance, interfaces, and polymorphism.
3. Defining classes.
4. Creating classes based on *Using* cases.
5. Using Visio to model classes in Visual Basic .NET.

Competency 5: Students will demonstrate how to apply principles of object-oriented programming in Visual Basic.NET by:

1. Instantiating objects from classes.
2. Using objects in client code.
3. Creating classes that use inheritance.
4. Defining interfaces and using polymorphism.
5. Creating shared members.
6. Creating class events and handling them from a client application.

Competency 6: Students will demonstrate an understanding of how to use Windows Forms by:

1. Describing the benefits of Windows Forms.
2. Using the new properties and methods of Windows Forms.
3. Writing event-handling code.
4. Using the new controls and control enhancements to improve the performance and capability of a project.
5. Adding and editing menus.
6. Adding and editing toolbars and status bars.
7. Adding help files to programs.
8. Creating a form that inherits from another form.

Competency 7: Students will demonstrate an understanding of how to build multiple-tier applications using classes by:

1. Listing the benefits of multiple-tier applications.
2. Identifying and describing the three basic tiers.
3. Creating applications by using classes to implement multiple-tier applications.

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4. Creating reusable objects.

Competency 8: Students will demonstrate an understanding of how to process sequential text files by:

1. Listing the structure of sequential text files.
2. Identifying and describing the *streamreader* and *streamwriter* objects.
3. Using advanced string manipulation for processing sequential text file fields.
4. Creating applications to create, update, and read sequential text files.

Competency 9: Students will demonstrate an understanding of how to use ADO.NET by:

1. Listing the benefits of ADO.NET.
2. Listing the main ADO.NET objects and their functions.
3. Creating applications by using ADO.NET.
4. Explaining how XML integrates with ADO.NET.
5. Using Visual Studio .NET data designers and data binding.

Competency 10: Students will demonstrate the ability to develop components in Visual Basic.NET by:

1. Creating components that can be used by managed and unmanaged client applications.
2. Creating serviced components.
3. Creating component classes.
4. Creating Windows Forms controls.
5. Using threading to create multi-threaded applications.
6. Creating class libraries.

Competency 11: Students will demonstrate the ability to deploy applications by:

1. Describing an assembly.
2. Listing the different types of application deployment.
3. Deploying a component assembly.
4. Deploying an application based on Windows.

Competency 12: Students will demonstrate an understanding of issues relating to upgrading to Visual Basic.NET by:

1. Describing the various upgrade options available.
2. Analyzing specific job requirements and recommending whether or not to upgrade an application.

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