Common Course Outline

CINS 221

Advanced Visual Basic Programming

4 Semester Hours

The Community College of Baltimore County

Description

Advanced Visual Basic Programming
Advances knowledge of Visual Basic programming emphasizing the concepts needed to write sophisticated event-driven graphical programs; includes database access, multiple document interface forms, inter-application communication, advanced printing techniques, debugging, and program optimization.
3 credits: 2 lecture hours, 2 laboratory hours.
Prerequisite: CINS 220 or consent of the Program Director or Academic Dean.

Overall Course Objectives

Upon completion of this course the student will be able to:

1. Develop relational database applications using DAOs and other controls.
2. Develop, exercise and deploy user defined classes and objects.
3. Develop, exercise and deploy Active X controls and objects.
4. Use the Crystal Reports feature to develop concise report applications.
5. Use OLE controls in applications.
6. Debug and maintain applications developed in Visual Basic.
7. Access and control the underlying operating system.
8. Access the MFC library and its classes.
9. Create stand-alone exe files from VB projects
10. Develop applications using MDI technology.

Major Topics

I. Review of Visual Basic fundamentals
   - A. Controls, properties and methods
   - B. VB programming considerations
   - C. Basic database concepts

II. Accessing relational databases
   - A. DAO object collection
   - B. Jet Engine
   - C. Recordset Object
   - D. Database navigation
   - E. The Data Grid control
   - F. Mapping and updating a database

G. Trapping and responding to errors
H. QueryDef objects
I. xbase and other ODBC considerations

III. Object types and classes
A. General OOP concepts
B. Object syntax and semantics
C. Generic and specific objects
D. Class modules
E. Object and class methods.
F. User defined collections.
G. Data persistence
H. Object and class dynamics.

IV. Active X DLLS and documents
A. DLL concepts and uses
B. Creating and using Active X DLLs
C. Active X documents and Internet navigation

V. The OLE Control and other Microsoft Office objects
A. Active X servers
B. Object models of other applications
C. Shell, SendKeys , AppActivate and similar functions
D. Working with other MS applications
E. OLE container controls
F. Object Linking and Embedding

VI. Crystal reports for Visual Basic

Course Requirements

Grading: Grading procedures will be determined by the faculty member, will be provided the first week of class, and will include:

1. Minimum of 6 programming projects and/or
2. Minimum of 2 tests.
3. Comprehensive final or project.

Other Course Information

This course is required in CIS: Database, meets the programming language requirement in CIS: Programming and is a CIS elective.
This course is taught in a computerized environment.
This course is the second course in a two-course sequence.

Date Revised: 7/1/00