

**Common Course Outline**  
**CSIT 213**  
**Advanced Visual Basic Programming**  
**4 Credits**

**Community College of Baltimore County**

**Description**

**CSIT 213 – 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.

**4 Credits**

**Prerequisite: CINS 212 or consent of the Program Director.**

**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; and
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 an elective in the Information Technology program.

This course is taught in a computerized environment.

This course is the second course in a two-course sequence.

Revised: 07/08/19