

Common Course Outline

CINS 220

Visual Basic Programming

4 Semester Hours

The Community College of Baltimore County

Description

Visual Basic Programming

Introduces Visual Basic programming, emphasizing design and development considerations for Windows based application programs; includes object-oriented programming concepts, user interface design, program flow, debugging techniques, and file access.

3 credits: 2 lecture hours, 2 laboratory hours.

Prerequisite: CINS 225 or CMSC 201 consent of the Program Director

Overall Course Objectives

Upon successfully completing the course students will be able to:

1. Identify the steps in the software design process for an event-driven language.
 - Plan the user-interface.
 - Determine the object properties.
 - Plan the code.
2. Demonstrate the ability to evaluate and use existing GUI components in the construction of an effective user interface for an application.
3. Identify the data types and variable/constant naming conventions.
4. Demonstrate how to do calculations.
5. Identify techniques for formatting output data.
6. Construct programs using the 3 control structures:
 - Sequence
 - Repetition
 - Selection.
7. Use arrays.
8. Use debugging tools.
9. Demonstrate the importance of data validation.
10. Incorporate multi-form projects.
11. Identify, explain, and discuss the data hierarchy.
 - Process sequential files.
 - Access databases.
12. Demonstrate the importance of testing and validating the solution.

Major Topics

- I. Role of different programming languages
 - A. Procedural
 - B. Event-driven
 - C. Object-oriented
- II. Design process
 - A. Plan the user interface

- B. Determine properties
- C. Plan the code
- III. Identifiers
 - A. Variables
 - B. Constants
- IV. Calculations
- V. Selection
 - A. Simple If
 - B. Nested If
 - C. Case structure
- VI. Menus
- VII. Reusable code
 - A. Call statement
 - B. Sub procedures
 - C. Functions
- VIII. Multiple forms
 - A. Splash screens
 - B. About forms
 - C. Summary forms
- IX. Repetition
 - A. Do until structure
 - B. Do while structure
 - C. For/Next
- X. Output
 - A. Formatting functions
 - B. Using the printer
- XI. Arrays
 - A. List/Combo boxes
 - B. Control arrays
 - C. One and two dimensional arrays
- XII. Data files
 - A. Data vocabulary
 - B. Sequential files
 - C. Accessing database tables

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 7 programming projects
2. Minimum of 2 tests
3. Comprehensive final or programming 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 first course in a two-course sequence.