A. Protocol

Course Name: Visual Programming
Course Number: CIS302 / CSC302 (dual listing)
Credits: 3
Prerequisites: CIS 220 Application Programming II with a C- or better OR CSC 265 Object Oriented Programming with a C- or better
Maximum Class Size (face-to-face): 35
Maximum Class Size (online): N/A

B. Objectives of the Course:

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

1) Display proficiency in using the Visual Studio IDE to create Visual Basic projects
2) Incorporate the use of controls (objects) and their methods into forms to provide a wide array of GUI functionality into VB projects
3) Develop event-driven, user-defined functionality behind VB GUIs using the following concepts:
   a. Local and global variable declarations and types
   b. Arithmetic calculations
   c. If-Then-ElseIf-Else-EndIf and Select Case decision structures
   d. Code determinate and indeterminate loops (both pre-test and post-test)
   e. Complex comparison structures and nested decisions
   f. Create custom functions and sub-procedures
4) Evaluate and debug VB programs

C. Catalog Description:

This course teaches Windows applications programming using the object-oriented event-driven programming paradigm, with the programming language VisualBasic.NET. It is designed as a beginning OOED programming course, but assumes students know Windows object vocabulary, have basic Windows file management skills, and are familiar with the generic procedural programming language constructs of decision structures and looping.

Pre-requisites: CSC 265 Object Oriented Programming with C- or better OR CIS 220 Application Programming II with a C- or better. Three credits.

D. Outline of the Course:
1) The Visual Basic IDE (integrated development environment)
   a. Files that make up a Visual Basic project
   b. Running, modifying and creating a VB project
2) Coding Event-Driven Controls
a. declaring and using variable types, text and label controls on forms (this includes the various controls introduced throughout the course, such as text boxes, radio buttons, input boxes, drop-down menus, etc)
b. changing focus, clearing, outputting

3) Programming Constructs: Selection
a. IF …. Then …. END IF
b. Comparison operators
c. If-Then-Else-EndIf, If-Then-ElseIf-Else-EndIf, and Select Case decision structures
d. Complex comparison structures and nested decisions

4) Debug
a. Setting control breaks, watch points, and stepping in and out of main control

5) Variables and Assignment Statements
a. Arithmetic operations, hierarchy of operations and storing results with variable assignment
b. Variable scope and static variables
c. Formatting Output

6) Programming Constructs: Looping
a. Various types of loops that can be carried out in an OOED computer language
b. Determinate and Indeterminate loops; pre and post-test loops
c. Use of files to permanently store data and information
d. Nested loops
e. Control arrays

7) Event Procedures and General Procedures
a. Event procedures, General procedures (Subs and Functions), and Modules
b. Designing, coding and calling functions and sub-procedures to execute arithmetic statements with passed and returned parameters

8) User Interface Enhancements
a. Timer controls, image controls random number generators and evaluations

9) Using the Menu Editor to build larger applications
a. Multiple forms, menu control arrays and event procedures

10) Working with Databases
a. Complete database operations, including querying, updating, inserting and deleting through various form controls and Visual Basic code.

E. Teaching Methodology:

1) Traditional Classroom Methodology
   This course will be taught using the lecture/discussion method and cooperative group method during appropriate sections of the course.

2) Online Methodology
   This course will not be taught online.

F. Text

Simply Visual Basic 2010 – An App-Driven Approach
Fourth Edition
Publisher is Pearson Prentice Hall
Authors are Paul, Harvey and Abbey Deitel
ISBN-10: 0-13-299060-1
G. Assessment Activities:

1) Traditional Classroom Assessment
   The final grade will be determined as a percentage from the following evaluation methods with varying weights at the discretion of the instructor:
   a. Examinations
   b. Quizzes
   c. Assignments
   d. Programs
   e. Attendance
   f. Performance

2) Online Assessment
   No online assessments will be given.

H. Accommodations for Students with Disabilities:

   Students with disabilities:
   - Reserve the right to decide when to self-identify and when to request accommodations.
   - Will register with the Office for Students with Disabilities (OSD) each semester to receive accommodations.
   - Might be required to communicate with faculty for accommodations, which specifically involve the faculty.
   - Will present the OSD Accommodation Approval Notice to faculty when requesting accommodations that involve the faculty.

   Office for Students with Disabilities

   Requests for approval for reasonable accommodations should be directed to the Office for Students with Disabilities (OSD). Approved accommodations will be recorded on the OSD Accommodation Approval notice and provided to the student. Students are expected to adhere to OSD procedures for self-identifying, providing documentation and requesting accommodations in a timely manner.

   Contact Information:
   - Location: Azorsky Building – Room 105
   - Phone: (724) 938-5781
   - Fax: (724) 938-4599
   - Email: osdmail@calu.edu
   - Web Site: www.calu.edu (search “disability”)