A. Protocol

Course Name: Visual Programming  
Course Number: CIS302  
Credits: 3  
Prerequisite: CIS 220 Application Programming II with a C- or better  
Prerequisite/Co-requisite: CIS 322 Data Base Application Development or permission of instructor, for non-CIS majors

Maximum Class Size (face-to-face): 35  
Maximum Class Size (online): 35

*Justification for online class size is due to the highly-technical nature of the course.

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. Prerequisite: CIS 220 Application Programming II with a C- or better. Prerequisite/Co-requisite: CIS 322 Data Base Application Development or permission of the instructor, for non-CIS majors. 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

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 some lecture/discussion method followed with a majority
   of class time using hands-on lab activities on the presented concepts. Some cooperative
   group method will be employed during appropriate sections of the course.

2) Online Methodology

   This course will be taught using a variety of methods including lecture videos, activities,
   group collaborative learning, and discussion boards.
Quality Matters™ Statement – The online course follows the standards of the Quality Matters™ rubric. An online homework system is required in this course.

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

Various assessment methods are used, at the discretion of the instructor, and can include exams, quizzes, tutorials, homework assignments, programs/projects/labs. An online homework submission system is used in this course.

2) Online Assessment

Various assessment methods are used, at the discretion of the instructor, and can include exams, quizzes, tutorials, homework assignments, programs/projects, wikis, online journals and labs. An online homework system is required in this course.

H. Accommodations for Students with Disabilities:

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](http://www.calu.edu) (search “disability”)

I. Supportive Instructional Materials, e.g. library materials, web sites, etc.

Books located in the PILOT catalogs, library databases (Ebscohost, CIOS, Proquest, Lexis-Nexis) which include books, journals, magazines, and newspapers.
Information for Course Proposals

J. Proposed Instructors: Dr. Gina Boff, Dr. Gary DeLorenzo, Dr. Lisa Kovalchick or any other
tenure-track CIS faculty from the Department of Mathematics, Computer Science and
Information Systems.

K. Rationale for Course: Course already exists and being updated for Global Online delivery.

L. Specialized Equipment or Supplies Needed: None

M. Answer the following questions using complete sentences:

1. Does the course require additional human resources? No, the course is already being
taught.

2. Does the course require additional physical resources? No. The current physical resources
on campus can accommodate the teaching of this course.

3. Does the course change the requirements in any particular major? No.

4. Does the course replace an existing course? No, this course does not replace any existing
courses.

5. How often will the course be taught? This course will be taught once every year.

6. Does the course duplicate an existing course in another Department or College? No.

7. What is the recommended maximum class size for this course? Recommended class size
for this course is 35 for online sections, due to the highly-technical nature of the course.

N. If the proposed course includes substantial material that is traditionally taught in another
discipline, you must request a statement of support from the department chair that houses that
discipline. This course does not include substantial material from another discipline.

O. Please identify if you are proposing to have this course considered as a menu course for General
Education. If yes, justify and demonstrate the reasons based on the categories for General
Education. The General Education Committee must consider and approve the course proposal
before consideration by the UCC. No; this course will not be offered on the GenEd menu.
Additional Information for Course Proposals

A. Proposed Instructors: Dr. Gina Boff, Dr. Gary DeLorenzo, Dr. Lisa Kovalchick or any other tenure-track CIS faculty from the Department of Mathematics, Computer Science and Information Systems

B. Rationale for Course: Course already exists and being updated for Global Online delivery.

C. Specialized Equipment or Supplies Needed: None

D. Answer the following questions using complete sentences:

8. Does the course require additional human resources? No, the course is already being taught.

9. Does the course require additional physical resources? No. The current physical resources on campus can accommodate the teaching of this course.

10. Does the course change the requirements in any particular major? No.

11. Does the course replace an existing course? No, this course does not replace any existing courses.

12. How often will the course be taught? This course will be taught once every year.

13. Does the course duplicate an existing course in another Department or College? No.

14. What is the recommended maximum class size for this course? Recommended class size for this course is 35 for online sections, due to the highly-technical nature of the course.

E. If the proposed course includes substantial material that is traditionally taught in another discipline, you must request a statement of support from the department chair that houses that discipline. This course does not include substantial material from another discipline.

F. Please identify if you are proposing to have this course considered as a menu course for General Education. If yes, justify and demonstrate the reasons based on the categories for General Education. The General Education Committee must consider and approve the course proposal before consideration by the UCC. No; this course will not be offered on the GenEd menu.