

Course Outline

COURSE: CSIS 51 **DIVISION:** 50 **ALSO LISTED AS:**

TERM EFFECTIVE: Fall 2016 **CURRICULUM APPROVAL DATE:** 11/23/2015

SHORT TITLE: VISUAL BASIC PROGRAMMING

LONG TITLE: Visual Basic Programming

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
4	18	Lecture:	3	54
		Lab:	3	54
		Other:	0	0
		Total:	6	108

COURSE DESCRIPTION:

An introduction to the GUI software applications using Microsoft Visual Basic. This course will give students the opportunity to learn how to create applications using Visual Basic. This course will show the students how to use forms, boxes, buttons, labels, menus, scroll bars, and drawing objects. Students will develop professional looking and deployable Visual Basic applications. This course has the option of a letter grade or pass/no pass. **ADVISORY:** CSIS 10 or equivalent.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

- L - Standard Letter Grade
- P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

- 02 - Lecture and/or discussion
- 03 - Lecture/Laboratory
- 04 - Laboratory/Studio/Activity
- 05 - Hybrid
- 72 - Dist. Ed Internet Delayed

STUDENT LEARNING OUTCOMES:

1. Create VB programs using calculations, decision statements.

Measure: Homework, projects, lab exercises.

PLO: 2

ILO: 7, 3, 2

GE-LO:

Year assessed or anticipated year of assessment: 2016

2. Create VB programs using text boxes, check boxes, radio buttons and other GUI objects.

Measure: Homework, exercises.

PLO: 2, 3, 4

ILO: 7, 2

GE-LO:

Year assessed or anticipated year of assessment: 2016

3. Create VB programs using menus, procedures and functions.

Measure: Homework, projects, lab exercises.

PLO: 2, 4, 3

ILO: 3,2,7

GE-LO:

Year assessed or anticipated year of assessment: 2016

PROGRAM LEARNING OUTCOMES:

1) Student will code, debug, document, test, and run complex C++ programs.

2) Student will write programs in at least three different programming languages, and compare and contrast the philosophies and comparative advantages of each these languages.

3) Students will demonstrate professional conduct by meeting project deadlines, and participating in self-managed teams.

4) Student will create algorithms to solve programming problems, and implement those algorithms.

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 11/23/2015

WEEK HOURS CONTENT

Students repeating this course will learn new Visual Basic commands and Windows capabilities, and will expand previous knowledge. Both the Visual Basic and the Windows are changing once a year.

1 6 Lecture:

Course Introduction

Introducing Visual Basic (VB) and the Visual Studio

Environment. Understanding the Visual Basic Desktop.

Using the Visual Basic Tutorials.

Lab:

Log into the computer system and start up VB.

Go through the VB tutorials.

Write some simple VB programs.

2 6 Lecture:

Go over simple parts of the Menu Bar, Toolbar, Project Explorer, Form Designer.

Lab:

Create a form, size the form, and position the form.

Add simple controls to their form.

Write a program that uses label, size, and position the controls. Start, save, and open a VB project.

3 6 Lecture:

Explain how event processing is done

Provide examples of several events and the necessary VB code.

Go over the VB On-line Help system.

Lab:

Finish the first VB application.

Modify the first VB application.

Write a new VB application.

Use the VB Help system.

4 6 Lecture:

Go over several VB applications that use text boxes, labels, and command buttons.

Handling Exceptions with Try/Catch/Finally.

Cover drop-down list box control.

Cover shape control in an application.

Cover check box control.

Lab:

Write several new applications with the material covered in class. Write applications that handle Exceptions. Modify the new application with drop-down lists and check boxes.

Use shape control for the application.

5 6 Lecture:

Cover option buttons.

Cover use of ENTER key default use.

Cover frame control in an application.

Go over an example with these features.

Lab:

Add option buttons to the application.

Use the ENTER key default choice.

Use frame control in the application.

6 6 Lecture:

Cover declaration and use of variables.

Cover if/then/else statements.

Cover copying of controls for multiple use.

Review for mid-term exam.

Lab:

Use variables in their program.

Use if/then/else decision statements.

Copy controls for similar statements
instead of writing the controls over.

7 6 Lecture:

MID-TERM EXAM

Cover adding forms to a project.

Cover the use of multiple forms.

Cover Startup Forms.

Cover removing and adding forms to the desktop.

Lab:

Write a program using forms.

Write a program using multiple forms.

Write a program using Startup Forms.

8 6 Lecture:

Cover image control to display an icon.

Cover Scroll bar use and properties.

Cover line control use and properties.

Cover financial functions.

Lab:

Write a program using icons.

Write a program using a scroll bar.

Write a program using line control and properties.

Write a program that uses financial functions.

9 6 Lecture:

Cover VB debug system.

Cover an application that has most of the previous
features.

Cover applications with menus, submenus, and pop-up
menus.

Cover access keys and separator bars.

Cover check marks for menus.

Lab:

Use the VB debug system to find errors and trace
flow.

Write a program that uses all the features covered
so far.

Write a program that uses menus, submenus, and
pop-up menus.

10 6 Lecture:

Creating Object-Oriented Programs.

Using sub procedures and functions.

Classes, objects, constructors, and destructors.

Inheritance.

Lab:

Write programs that use sub procedures and function.

Write programs that use classes, objects,
constructors, and destructors.

Write programs that use inheritance.

11 6 Lecture:

Cover color in applications.

Cover control arrays.

Cover code for selecting records in a database.

Cover for/next statements.

Lab:

Write a program that uses two or more colors.

Write a program that uses control array.

Write a program that selects records in a database.

Write a program that uses for/next statements to process the database.

12 6 Lecture:

Multiple document Interface (MDI) forms.

Tiled and cascaded windows.

A sample program using MDI.

Lab:

Write a program using MDI forms.

Write code for the MDI forms.

Write controls for the MDI forms.

13 6 Lecture:

SplashScreen

Examples of SplashScreen

Border styles and keypreviews

Lab:

Write a program with a Splash Screen.

Establish border styles and use keypreviews.

14 6 Lecture:

Overview of databases

Using database controls

Building a VB database application

Using Structural Query Language (SQL)

Using multiple tables in a database program.

Lab:

Write a program that process a database.

Write a program that uses SQL commands.

Write a program that uses multiple databases.

15 6 Lecture:

VB and object variables.

Creating controls at run time.

Declaring and using object variables.

Explicit vs. implicit declaration of objects.

Lab:

Write a program with object variables.

Write a program that use controls on the forms.

16 6 Lecture:

Using Dynamic Link Libraries.

Static Linking vs. dynamic linking.

Visual Basic DDLs

Using multimedia classes.

Lab:

Write a program that uses DDL.

Write a program that runs a multimedia application.

17 6 Lecture:

Dynamic Data Exchange (DDE)

Object Linking and Embedding

ActiveX

Lab:

Write a program that uses ActiveX and Microsoft Office.

Use OLE to link the program.

18 3 Lecture:

Final Exam

Lab:

Final programming project due.

METHODS OF INSTRUCTION:

Lecture, computer demonstration, hands-on exercises and practice.

METHODS OF EVALUATION:

The types of writing assignments required:

Written homework

Reading reports

The problem-solving assignments required:

Homework problems

Quizzes

Exams

The types of skill demonstrations required:

Class performance

Performance exams

The types of objective examinations used in the course:

Multiple choice

True/false

Matching items

Completion

Other category:

None

The basis for assigning students grades in the course:

Writing assignments: 5% - 20%

Problem-solving demonstrations: 30% - 70%

Skill demonstrations: 20% - 40%

Objective examinations: 5% - 20%

Other methods of evaluation: 0% - 0%

REPRESENTATIVE TEXTBOOKS:

Required:

Hoisington, Corinne. Microsoft Visual Basic 2015 for Windows, Web, Windows Store, and Database Applications: Comprehensive. Course Technology; 2015. Or other appropriate college level text.
Reading level of text, Grade: 12+ Verified by: ev

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:
 GAV E2, effective 200730
CSU GE:
IGETC:
CSU TRANSFER:
 Transferable CSU, effective 200730
UC TRANSFER:
 Transferable UC, effective 200730

SUPPLEMENTAL DATA:

Basic Skills: N
Classification: Y
Noncredit Category: Y
Cooperative Education:
Program Status: 1 Program Applicable
Special Class Status: N
CAN:
CAN Sequence:
CSU Crosswalk Course Department: CSIS
CSU Crosswalk Course Number: 51
Prior to College Level: Y
Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: B
Maximum Hours:
Minimum Hours:
Course Control Number: CCC000347718
Sports/Physical Education Course: N
Taxonomy of Program: 070710