

# EASTERN ARIZONA COLLEGE

## Visual Basic Programming I

Course Design  
2019-2020

### Course Information

**Division** Business  
**Course Number** CMP 121  
**Title** Visual Basic Programming I  
**Credits** 3  
**Developed by** Lydia Mata  
**Lecture/Lab Ratio** 2 Lecture/2 Lab

### Transfer Status

ASU	NAU	UA
CSE 181, CIS 220, Computer/Stats (CS)	Elective Credit	CSC Departmental Elective

**Activity Course** No  
**CIP Code** 11.0100  
**Assessment Mode** Final Exam (50 Questions/50 Points)  
**Semester Taught** Upon Request  
**GE Category** AAS Degree Only  
**Separate Lab** No  
**Awareness Course** No  
**Intensive Writing Course** No  
**Diversity and Inclusion Course** No

### Prerequisites

None

### Educational Value

This course is targeted toward two- and four-year computer majors as well as community students interested in using Visual Basic programming language to support application software.

### Description

A comprehensive introduction to event-driven, object-oriented computer programming using the Visual Basic programming language. Students learn to write problem-solving programs and develop a wide variety of Windows applications in a graphical environment. The course uses Visual Basic to illustrate good programming practices, application development techniques, and overall visual design.

### Supplies

USB flash drive

## **Competencies and Performance Standards**

### **1. Examine the terminology and concepts of event-driven, object-oriented programming languages.**

#### **Learning objectives**

*What you will learn as you master the competency:*

- a. Recognize standard Visual Basic programming terminology.
- b. Relate event-driven, object-oriented programming techniques to Visual Basic programming language.

#### **Performance Standards**

*Competence will be demonstrated:*

- o by successful completion of a multiple choice quiz

*Criteria-Performance will be satisfactory when:*

- o learner recognizes standard Visual Basic programming terminology
- o learner relates event-driven, object-oriented programming techniques to Visual Basic programming language

### **2. Create simple Visual Basic applications.**

#### **Learning objectives**

*What you will learn as you master the competency:*

- a. Start and customize the Visual Basic programming environment.
- b. Open, save, close, and create new solutions.
- c. Set and restore object properties.
- d. Add various types of controls to forms.

#### **Performance Standards**

*Competence will be demonstrated:*

- o by successful completion of chapter tutorials and quizzes
- o by successful completion of chapter projects
- o by successful completion of final exam

*Criteria-Performance will be satisfactory when:*

- o learner starts and customizes the Visual Basic programming environment
- o learner opens, saves, closes, and creates new solutions
- o learner sets and restores object properties
- o learner adds various types of controls to forms
- o learner prints existing code

### **3. Design a simple application using Visual Basic Programming Language.**

#### **Learning objectives**

*What you will learn as you master the competency:*

- a. Complete a flow chart.
- b. Describe Windows layout and labeling standards.
- c. Build standard interface features like access keys, tab order, locked controls, and borders styles.
- d. Write and code simple assignment statements, arithmetic expressions, and methods.

### **Performance Standards**

*Competence will be demonstrated:*

- o by successful completion of chapter tutorials and projects
- o by successful completion of chapter projects
- o by successful completion of final exam

*Criteria-Performance will be satisfactory when:*

- o learner completes flow chart
- o learner describes common Windows layout and labeling standards
- o learner builds standard interface features like access keys, locked controls, and borders styles
- o learner writes and codes simple assignment statements, arithmetic expressions, and methods

## **4. Use variables and constants in Visual Basic applications.**

### **Learning objectives**

*What you will learn as you master the competency:*

- a. Define Visual Basic variables and constants.
- b. Describe various primitive data types.
- c. Describe the scope and lifetime of a variable.
- d. Declare, assign, and initialize Visual Basic variables.
- e. Declare, assign, and initialize Class-Level variables.
- f. Retrieve user input for use in initializing variables.
- g. Designate default buttons.
- h. Concatenate strings.
- i. Create procedures that handle more than one event.

### **Performance Standards**

*Competence will be demonstrated:*

- o by successful completion of chapter tutorial and quizzes
- o by successful completion of chapter projects
- o by successful completion of final exam

*Criteria-Performance will be satisfactory when:*

- o learner defines Visual Basic variables and constants
- o learner describes various primitive data types
- o learner demonstrates the scope and lifetime of a variable
- o learner declares, assigns, and initializes Visual Basic variables
- o learner declares, assigns, and initializes Class-Level variables
- o learner retrieves user input from form and uses the value to initialize variables
- o learner designates default buttons
- o learner concatenates strings
- o learner creates procedures that handle more than one event

## 5. Write selection structures in Visual Basic code.

### **Learning objectives**

*What you will learn as you master the competency:*

- a. Code If...Then...Else and If...Then...ElseIf statements in Visual Basic programming language.
- b. Code loop statements in Visual Basic programming language, including Do While, Do Until, and For...Next loops.
- c. Demonstrate the use of comparison and logical operators.
- d. Format numbers.
- e. Use MessageBox methods and group controls.
- f. Handle Exceptions.
- g. Code nested selection structures and case structures.

### **Performance Standards**

*Competence will be demonstrated:*

- o by successful completion of chapter tutorials and quizzes
- o by successful completion of chapter projects
- o by successful completion of final exam

*Criteria-Performance will be satisfactory when:*

- o learner codes If...Then...Else statements in Visual Basic programming language
- o learner codes Do While, Do Until, and For...Next loops in Visual Basic programming language
- o learner demonstrates the use of comparison and logical operators
- o learner formats numbers and changes case
- o learner creates MessageBox methods and group controls
- o learner handles Exceptions
- o learner codes nested selection structures and case structures

## 6. Write procedures and functions.

### **Learning objectives**

*What you will learn as you master the competency:*

- a. Code procedures in Visual Basic programming language.
- b. Pass arguments to and from procedures.
- c. Code functions in Visual Basic programming language.

### **Performance Standards**

*Competence will be demonstrated:*

- o by successful completion of chapter tutorials and quizzes
- o by successful completion of chapter projects
- o by successful completion of final exam

*Criteria-Performance will be satisfactory when:*

- o learner codes procedures in Visual Basic programming language
- o learner passes arguments to and from various procedures
- o learner codes functions in Visual Basic programming language

***Types of Instruction***

Classroom presentation

On-campus laboratory

***Grading Information******Grading Rationale***

The final exam will be represented as 10% of the overall grade.

***Grading Scale***

A 90-100%

B 80-89%

C 70-79%

D 60-69%

F Below 60%