OUTCOMES BASED LEARNING MATRIX

Course: CTIM 361 – Introduction to Visual Basic   **3 credits/4 contact hours**
Department: Computer Technology and Information Management

Description:
This course provides the skills and knowledge required to use essential features and capabilities of Visual
BASIC, a programming system used to produce Graphical User Interfaces and applications in a Windows
environment. It includes basic programming concepts, problem solving, programming logic, and the design
of event-driven programming.

Lecture: 2 Hours   Laboratory: 2 Hours

**Prerequisite: Beginning Windows or higher and Beginning Word or higher and Beginning Excel or higher and Software Design and
Development or permission of Department.**

While completing the table below, remember that the individual outcomes you list in the first column should answer this question: **What
must the learner know and be able to do at the end of the course?** Items in the third column should answer the question: **How do we
know?** The second column is where teachers can be most creative; it's for pedagogy. Each rectangle in column one should contain just
one outcome; the corresponding rectangles in columns two and three, however, may contain more than one item. Using the code at the
end of the matrix, indicate the core competencies being strengthened by the outcomes activities and the assessment tools.

COURSE OUTCOMES	OUTCOME ACTIVITIES	ASSESSMENT TOOLS
At the end of this course, the student will: 1. Understand an overview of computers and computer programming.	1.a) Describe different types of programming languages. (WC,CCT) b) Describe Visual Basic. (WC,CCT) c) Describe what makes a quality program. (WC,CCT) d) Discuss algorithms. (WC,CCT) e) Discuss top-down verses event-driven algorithms. (WC,CCT) f) Discuss the concept of an object. (WC,CCT) g) Discuss interpreters and compilers. (WC,CCT)	Exercises and drills from the end of the chapter. (WC,IL,QL,IG,CCT,QT) Design & develop computer programs given the problem definitions. (WC,IL,CCT,QT,IG,QL) Course Objective test. (WC,IL,CCT,QT,IG,QL)

COURSE OUTCOMES	OUTCOME ACTIVITIES	ASSESSMENT TOOLS
2. Understand Visual Basic applications.	2. a) Create a project. (WC,CCT) b) Use the IDE. (WC,CCT) c) Create a VB application. (WC,CCT) d) Use Picture Box controls, Text Box controls, and Command Button controls. (WC,CCT) e) Use basic event handling. (WC,CCT) e) Save a project. (WC,CCT) f) Use color with controls. (WC,CCT) g) Complete a case study. (WC,CCT)	Referenced Above

COURSE OUTCOMES	OUTCOME ACTIVITIES	ASSESSMENT TOOLS
3. Understand how to perform operations and store results.	3. a) Use variables and option explicit. (WC,CCT) b) Use operators. (WC,CCT) c) Declare local and global variables. (WC,CCT) d) Use constants. (WC,CCT) e) Run the debugger. (WC,CCT) f) Complete a case study. (WC,CCT)	Referenced Above

COURSE OUTCOMES	OUTCOME ACTIVITIES	ASSESSMENT TOOLS
4. Understand the concept of data-driven program execution flow control in Visual Basic programming.	4. a) Code an If statement to make simple decisions. (WC,CCT) b) Code If-Else and If-ElseIf statements. (WC,CCT) c) Code nested If-Else statements to make complex decisions. (WC,CCT) d) Write a program that uses nested If-Else statements. (WC,CCT) e) Write compound conditional statements using logic operators. (WC,CCT) f) Use the Exit Sub statement to prematurely exit from a subroutine. (WC,CCT) g) Use the Select Case statement. (WC,CCT) h)) Complete a case study. (WC,CCT)	Referenced Above

COURSE OUTCOMES	OUTCOME ACTIVITIES	ASSESSMENT TOOLS

5. Understand additional Visual Basic controls.	5. a) Use the Frame control. (WC,CCT)
	
	   b) Use Check Box controls to select some of many. (WC,CCT)
	
	   c) Use Option Button controls to select one of many. (WC,CCT)
	
	   d) Introduce the List Box control and the Combo Box control. (WC,CCT)
	
	   e)) Complete a case study. (WC,CCT)
		Referenced Above

COURSE OUTCOMES	OUTCOME ACTIVITIES	ASSESSMENT TOOLS
6. Understand loops to do repetition.	6. a) Use For loops. (WC,CCT) b) Use For loops with List Box controls and Combo Box controls. (WC,CCT) c) Use the debugger to do a trace . (WC,CCT) d) Use the debugger to set breakpoints. (WC,CCT)	Referenced Above

*Try to express an outcome as an infinitive phrase that concludes this sentence: **At the end of the course, the students should be able to . . ..** Finding the line between too general and too specific can be difficult. In an English Composition course, for instance, it is probably too general to say, "The student should be able to write effective essays." It is probably too specific to say, "The student should be able to write an introductory paragraph of at least 50 words, containing an attention-getting device, an announcement of the narrowed topic, and an explicit thesis sentence." Just right might read, "The student will write introductions that gather attention and focus the essay."

**Indicate the Core Competencies that apply to the outcomes activities and assessment tools: Critical Thinking (CT); technology skills (TS); oral communications (OC); quantitative skills (QS); reading (R); writing (W).   Approved by the CTIM Department – September, 2003

**Indicate the Core Competencies that apply to the outcomes activities and assessment tools: Critical and Creative Thinking (CCT); Integrative Learning (IG); quantitative Literacy (QL); Information Literacy(IL); Information Literacy(IL).   Approved by the CTIM Department – September, 2015