PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

X Transfer Course X A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: CSIS 217 Advanced Visual Basic

UNIT VALUE: 4

MINIMUM NUMBER OF SEMESTER HOURS: 80

BASIC SKILLS REQUIREMENTS: Appropriate Language and Computational Skills

ENTRANCE REQUIREMENTS

PREREQUISITE: CSIS 214, Intermediate Visual Basic

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE:
Advanced course in Visual Basic programming. Special emphasis will be placed on the application of the Visual Basic language to solve business problems, including requirements definition, design, construction, testing, and documentation. Multiple forms, objects, controls, object linking and embedding (OLE), and the use of the data control object to interface with databases external to Visual Basic will be covered.

SPECIFIC COURSE OBJECTIVES: The successful student will:

1. Create a structured analysis and design for a Visual Basic program.
2. Write and debug a fully functional Windows program using Visual Basic.
3. Use Object Linking and Embedding (OLE) in a Visual Basic program.
4. Use general Windows Application Programming Interface (API) calls in a Visual Basic program.
5. Recognize and discuss various database designs.
6. Create a Visual Basic program that can read, write, and update a Microsoft Access database.
7. Create a Visual Basic program that uses objects.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

I. Structured and Object-Oriented Analysis and Design of Visual Basic programs
   A. Performing program analysis
   B. Structured program design and Visual Basic
   C. Object-Oriented program analysis
   D. Object-Oriented program design and Visual Basic
II. Defining, Creating and using Visual Basic Objects
   A. What is a Visual Basic object?
   B. Creating a Visual Basic object
   C. Hiding properties in a Visual Basic object
   D. Using Visual Basic objects in a program
III. Overview of Database Programming
   A. Kinds of databases used in business
   B. Relational databases and database design
   C. Access database overview
   D. Creating an Access database
   E. Database design considerations
IV. Defining and Using Visual Basic Data Controls
   A. What are data controls?
   B. Linking data controls to an external database
   C. Attaching data aware controls to database controls
   D. Designing with data controls
   E. Data control limitations and advantages
V. Defining and Using the Jet Database Engine
   A. What is the Jet database engine?
   B. Difference between Jet database engine and data controls
   C. Using Structured Query Language with the Jet database engine
   D. Writing Jet database engine programs
VI. Overview of OLE and Microsoft Windows
   A. Object linking and embedding in Windows
   B. How OLE works from within Windows
   C. Benefits and drawbacks to OLE
VII. Using OLE in Visual Basic
   A. Using the OLE control
   B. Setting the OLE control options
   C. Using an OLE control in a program
VIII. Overview of Windows and API calls
   A. Windows DLL files
   B. DLL files and API calls in Windows
   C. Low-level Windows operations and DLL files
IX. Using API calls in Visual Basic
   A. Declaring a link to a DLL file
   B. Correctly placing the Declare statement in a Visual Basic program
   C. Calling an API routing from Visual Basic
   D. Samples of various helpful API calls
X. Creating large scale Visual Basic programs
   A. Design of large scale programs
   B. Process of analysis, design, coding, testing
   C. Object-Oriented analysis and design
   D. Coding and source code control
   E. Unit and integration testing

REQUIRED READING:

Ekedahl, Michael. MCSD Guide to Developing Desktop Applications with Microsoft Visual Basic 6.0 Advanced Topics. Course Technology. 2000

SUGGESTED READING: None

REQUIRED WRITING:

A. Program analysis document
B. Program design document
C. Database design document

Above documents are a minimum of one page each.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

There will be written group and individual assignments.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:
_X_ lecture
_____ laboratory
_X_ lecture-laboratory combination
_____ directed study

DISTANCE LEARNING:

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.
Yes _X_ No_____

If yes, check all that apply:

_X_ Television Course (Video one-way, e.g. ITV, video cassette, etc.)
_X_ Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
_____ Two-Way Video Conferencing (Two-way interactive video and audio)
_____ One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
_X_ Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

70-100% Programming assignments
0-30% Examinations

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?
Yes ____ No X Number of times course may be taken for credit: 1

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON: Ronald Burgher, Ext. 2760

SIGNATURES ON FILE