CS 63.12 Course Outline as of Fall 2015

CATALOG INFORMATION

Dept and Nbr: CS 63.12 Title: MS ACCESS AND VBA
Full Title: Microsoft Access and Visual Basic for Applications
Last Reviewed: 5/10/2010

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	4	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00 Total Student Learning Hours: 157.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade or P/NP
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	CIS 69.33

Catalog Description:
An advanced course in Microsoft Access designed for students who have successfully completed the beginning course. This course will explore advanced queries, including SQL, forms, and reports. Macros and modules will be used to develop sophisticated turnkey applications; multi-user applications and security will be discussed.

Prerequisites/Corequisites:
Course Completion of CS 63.11 (or CIS 69.31 or CIS 82.21)

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: An advanced course in Microsoft Access designed for students who have successfully completed the beginning course. This course will explore advanced queries, including SQL, forms, and reports. Macros and modules will be used to develop sophisticated turnkey applications; multi-user applications and security will be discussed. (Grade or P/NP)
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Transfer Credit:
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ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
Upon completion of the course, students will be able to:
1. Explain and implement programming logic constructs.
2. Design relational database applications using the rules of normalization.
3. Create database applications using tables, forms, reports, and queries.
4. Automate the database application using macros and VBA (Visual Basic for Applications).

Topics and Scope:

1. Overview of the Access objects
    a. Tables
    b. Queries
    c. Forms
    d. Reports
    e. Macros
    f. Modules
2. Definition of relational database
3. Normalization
    a. Goals of normalization
    b. First normal form
    c. Second normal form
    d. Third normal form
    e. Fourth normal form
    f. Fifth normal form
4. Names: The Leszynski-Reddick (L_R) convention
5. Primary keys and indexes
6. Relationships
    a. Rules for creating relationships

- b. Referential integrity
7. Queries
   - a. Review of simple queries
   - b. Dynasets and snapshots
   - c. Joining tables
     - 1) equi-joins
     - 2) outer-joins
     - 3) the not-in query
     - 4) self-joins
   - d. Parameter queries
   - e. Calculations in queries
   - f. SQL (Structured Query Language)
     - 1) history of SQL
     - 2) syntax conventions
     - 3) select query syntax
     - 4) action query syntax
8. Forms
   - a. Controls
     - 1) bound
     - 2) unbound
     - 3) calculated
   - b. Main and subforms
     - 1) designing
     - 2) properties
     - 3) the event trigger cycle
   - c. Drill down forms
     - 1) macros
     - 2) visual basic
   - d. Switchboards
9. Macros
   - a. The user interface
   - b. Organizing the tasks
   - c. Documenting your application
   - d. Macro groups
   - e. Starting up your application
   - f. Conditions in macros
   - g. Macro loops
   - h. Macro errors
   - i. Troubleshooting
   - j. Single stepping through macros
   - k. Autokeys macros
   - l. Automating switchboards
   - m. Looking up information in tables and queries
     - 1) combo boxes
     - 2) dlookup
     - 3) autolookup query
   - n. Navigating to controls and records
   - o. Data entry operations
     - 1) validating data
     - 2) adding records
     - 3) changing data
     - 4) deleting records

p. Controlling the user interface
    1) custom menu bars
    2) custom tool bars
    3) custom key assignments
10. Visual Basic or Macros
11. Event driven programming
    a. Event driven vs traditional methods
    b. Handling events with VBA
12. Modules and procedures
    a. Forms and reports modules
    b. Standard modules
    c. The general object
    d. VBA handlers
    e. Compiling code
13. Procedures
    a. Subroutines and functions
    b. Procedure declaration
14. Variables
    a. Variable types
    b. Declaring variables
    c. Constants
    d. Variable scope and lifetime
15. Making decisions
    a. If...Then
    b. If...Then...Else
    c. Else If
    d. Logical operators with the If Statement
    e. Operator precedence
16. Repetition
    a. Loops
    b. Nested control structures
    c. Exiting a control structure
17. Arrays
    a. Static arrays
    b. Dynamic arrays
18. Object Oriented Programming
    a. Objects
        1) properties
        2) methods
        3) classes
    b. Collections
        1) containers and documents
        2) forms container
        3) errors collection
        4) default collections
19. Recordsets
    a. Opening
    b. Refreshing
    c. Moving through recordsets
    d. Counting records
    e. Looking for specific records
    f. Bookmarks

g. Editing records in recordset
20. Queries at run-time
    a. Drill down forms
    b. SQL
21. Displaying selected records at run-time
22. Working with external data
23. Error handling
    a. Planning for errors
    b. Types of errors
    c. VBA (Visual Basic Application) errors
    d. Form and report errors
    e. DAO (Data Access Object) errors
24. Debugging
    a. Program execution
    b. The debug window
25. Data access in a multi-user environment
    a. Chaining databases
    b. Attachment managers
    c. Setting the default environment
    d. Locking schemes
26. Security
    a. Activating the security system
    b. Creating groups
    c. Creating users
    d. Assigning permissions
27. Managers and add-in utilities
    a. Database splitter
    b. Add-in utilities

Assignment:

1. Written quizzes
2. Performance exams on computer
3. Read 20-30 pages per week
4. Answer end-of-chapter questions
5. Computer tutorial labs
6. Case studies done on the computer

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems (reading, end-of-chapter questions), project	Problem solving 20 - 30%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Performance exams, lab tutorials	Skill Demonstrations 20 - 30%

Exams: All forms of formal testing, other than skill performance exams.

Quizzes: multiple choice, true/false, matching items, completion	Exams 40 - 50%

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance, class participation	Other Category 10 - 20%

Representative Textbooks and Materials:
New Perspectives: Microsoft Access 2003 With Visual Basic For Applications, by Briggs. Course Technology, 2005 (or most current in field).