

# IT 0055 - DATABASE MANAGEMENT

---

## Catalog Description

Formerly known as CIS 90

Advisory: Completion of Bus 252 with grade of "C" or better or strong understanding of MS Office Application navigation

Hours: 72 (54 lecture, 18 laboratory)

Description: Discover the intricacies of relational databases using the current version of Microsoft Access. Includes designing database structures: tables, queries, forms, reports, and macros. Also includes integrating with the Web, Excel and other programs. Emphasis on hands-on learning. (C-ID ITIS 180) (CSU)

## Course Student Learning Outcomes

- CSLO #1: Research, analyze and evaluate information to solve business problems using a database management application.
- CSLO #2: Design and produce database management solutions incorporating current trends, security, and best practices.
- CSLO #3: Employ database management concepts and terminology in professional communication.
- CSLO #4: Demonstrate marketable database management career skills.

## Effective Term

Fall 2023

## Course Type

Credit - Degree-applicable

## Contact Hours

72

## Outside of Class Hours

90

## Total Student Learning Hours

162

## Course Objectives

Lecture Objectives:

1. Identify and explain database structures and types;
2. Explain how to extend Access databases using VBA;
3. Discuss how to Integrate data stores with Web and other programs; and
4. Describe how to Secure database files.
5. Discuss the importance of Referential Integrity in a relational database
6. Identify when to use Forms for data entry and why it helps with error control.
7. Explain what SQL is and why it is important to understand it's use.
8. Define the compatibility of Access and Excel
9. Explain the difference between a Primary Key and a Foreign Key
10. Define when you would use the Cascade Updates feature

11. Discuss how Inner Join and Outer Join can be used to impact the outcome of a query

Laboratory Objectives:

1. Design and use databases;
2. Establish database tables and input/modify data;
3. Establish relationships between tables using common fields.
4. Create custom forms that interact with tables;
5. Generate queries for data extraction;
5. Produce finalized reports from data queries.
7. Utilize database functions, such as filing, retrieving, updating, sorting, searching, and calculating;
8. Design forms for input and custom access;
9. Design and produce database reports; and
10. Extend Access databases using VBA

## General Education Information

- Approved College Associate Degree GE Applicability
- CSU GE Applicability (Recommended-requires CSU approval)
- Cal-GETC Applicability (Recommended - Requires External Approval)
- IGETC Applicability (Recommended-requires CSU/UC approval)

## Articulation Information

- CSU Transferable

## Methods of Evaluation

- Objective Examinations
  - Example: Students will be given weekly chapter review questions using True/False, Multiple Choice and Fill-In questions. Standard grading will be used to measure the level of understanding of the topics being covered. Sample Question: To help maintain data consistency between related tables and prevent orphan records we should enforce \_\_\_\_\_ when creating relationships. Answer: Referential Integrity.
- Problem Solving Examinations
  - Example: Students will be given scenario based question describing a particular problem and the parameters involved and asked to determine the proper course of action that needs to be taken to correct the problem. Sample Question: You are working on a parameter query to select records based on the City field. When you run the query the dialog box prompt appears asking to enter the desired city and returns the correct results, but you would also like to be able to run the query and get all cities returned. The current criteria is set to [Enter the City:] What do you need to change in the criteria field and how will you get all records to return when you run the query? Answer: Like "\*" & [Enter the City: ] & "\*" When you run the query leave the dialog box prompt blank Grading: ½ points for correct criteria change and ½ points for knowing how to make it work.
- Projects
  - Example: Students will be required to design and develop a database system for use in an area of their own choosing. The project will be broken into smaller assignment submits so that the instructor can provide guidance and feedback throughout the design process. These assignments will be graded based on a rubric provided by the instructor.
- Skill Demonstrations
  - Example: Students are required to submit completed weekly hands-on lab assignments for grading based on a rubric provided by the instructor. Instructors will provide feedback and encourage

students to rework assignments to correct errors found during the grading. Example: Students will complete a database query exercise. Grading based on rubric provided by instructor.

## Repeatable

No

## Methods of Instruction

- Laboratory
- Lecture/Discussion
- Distance Learning

Lab:

1. Instructor will provide a brief review on database modifications and students will complete additional database modifications to reinforce the learning objectives covered in that weeks' demonstration. The instructor will be available to assist students and will review, comment and grade the completed exercises to ensure that the students have achieved the needed skills. Example: Build a parameter query based on the Employee table that prompts you for the Department ID to filter the results or return all records if no parameter is input. (Lab Objective 4)

Lecture:

1. After students read the assigned chapter and complete the review questions the instructor will lead students through a demonstration of the skills for that chapter on datatypes and review the key concepts of the week through class discussion. Datatype example for discussion: True or False: when storing phone numbers in a database you should always use the integer number data type. (Lecture Objective 1)

Distance Learning

1. The LMS can be used to initiate discussion between the instructor and students, as well as, student to student similar to those that would take place in an on-ground course. Example: After an instructor lecture on creating a database versus storing data in a spreadsheet, students will discuss reasons why creating a database to store customer purchasing information would be preferable to storing that same data in a spreadsheet such as Microsoft Excel. Support your statements with examples where possible. After you have posted your response read through the posts of your fellow classmates and be sure to comment on at least 3 other student posts. Instructor will monitor responses and provide feedback to students throughout the exercise. (Lecture Objective 2)

## Typical Out of Class Assignments

### Reading Assignments

Students will read one chapter from the textbook each week prior to the class meeting to familiarize themselves with terminology and concepts.

1. Example: Read the chapter titled "Introduction to Microsoft Access" - working with an existing database, and be prepared to discuss in class.
2. Example: Read the chapter titled "Creating Custom Forms", and be prepared to discuss in class.

## Writing, Problem Solving or Performance

1. Students will complete a set of chapter review questions for each chapter. Example: True or False - A bond form is a form that has a table or query as its record source. You use a bond form for maintaining and displaying table data. 2. Students will complete hands-on lab computer assignments applying the weekly concepts. Example: Open the week 1 database, add the following record to the student table XXXXX. Open the student success report and print a copy.

## Other (Term projects, research papers, portfolios, etc.)

Students will design a simple database of their choice that will include tables, queries, forms, reports and if needed macros. This will be a 3 part project. Part 1 - submit and ERD, Part 2 - rough draft and Part 3 final database.

## Required Materials

- New Perspectives Microsoft® Office 365 & Access 2019 Comprehensive
  - Author: Shellman/Vodnik
  - Publisher: Course Technology Publisher
  - Publication Date: 2020
  - Text Edition: 1st
  - Classic Textbook?: No
  - OER Link:
  - OER:

## Other materials and-or supplies required of students that contribute to the cost of the course.

Students should bring a 10 GB or larger USB drive for moving files from home to school and back unless they have high-speed internet access off-site for transferring files directly.