

Montgomery County Community College
 CIS 244
 PC Database Management Systems
 3-2-2

COURSE DESCRIPTION:

This course is designed to introduce the student to the concepts involved in designing and using a database management system on the personal computer. Topics to be covered in the course will include discussions of various types of database structures and manipulations of the database through the database language.

REQUISITES:

Previous Course Requirements

- CIS 110 Information Systems for Management with Computer Applications or
 CIS 155 PC Applications on Networks

Concurrent Course Requirements

None

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Design and develop a database management system.	Lecture Discussion Hands-On Lab Exercises Homework Assignments	Hands-On Lab Exercises Final Projects
2. Discuss various types of database structures, manipulations of a database structure, and query techniques.	Lecture Discussion Hands-On Lab Exercises Homework Assignments	Hands-On Lab Exercises Quizzes and Exams
3. Create a database application using fundamental concepts of a database management system.	Lecture Discussion Hands-On Lab Exercises Homework Assignments	Hands-On Lab Exercises Quizzes and Exams
4. Recognize database concepts including data dependence, relationships, key systems, and indexing.	Lecture Discussion Hands-On Lab Exercises Homework Assignments	Hands-On Lab Exercises Quizzes and Exams

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
5. Analyze, design, and create a database structure in third normal form using a PC-based database management system.	Lecture Discussion Hands-On Lab Exercises Homework Assignments	Hands-On Lab Exercises Final project
6. Create forms for efficient data entry and validation.	Lecture Discussion Hands-On Lab Exercises Homework Assignments	Hands-On Lab Exercises Final project
7. Use query and report design utilities to create useful information systems.	Lecture Discussion Hands-On Lab Exercises Homework Assignments	Hands-On Lab Exercises Final project
8. Code and debug quality structured programs using a current PC data base software language.	Lecture Discussion Hands-On Lab Exercises Homework Assignments	Hands-On Lab Exercises Final project
9. Create menus for easy user interface to the database forms, queries, and programs.	Lecture Discussion Hands-On Lab Exercises Homework Assignments	Hands-On Lab Exercises Final project

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

SEQUENCE OF TOPICS:

1. Database Creation
2. Elements of Programming
3. Iteration
4. Selection
5. Menu Programs
6. Structured Programming
7. Using Indexes
8. Working with Multiple Files
9. Custom Screens
10. Functions and Arrays
11. Update Programs
12. The Idea of Databases and Datasave Management
13. The Database Systems Life Cycle

14. Database Management Systems
15. Data Models
16. Database Design and the Conceptual Model
17. Models for Reprojection
18. Data Dictionaries
19. Normalization
20. Structured Query Language and Data Manipulation
21. Queries, Joins, and Embedded SQL

LEARNING MATERIALS:

Bundle Package ISBN: 9781337502009

Coronel/Morris, (). *Database Systems: Design, Implementation, & Management + CourseMate Access Code*; 12th ed; 9781305866799

Adams/Finnegan. *New Perspectives on Microsoft Office 365 & Access 2016, Comprehensive*, 1st ed; Loose-leaf Version 9781337251457

Printed Access Card MindLink MindTap for Database Systems Text 9781305877917
SAM 365 & 2016 Printed Access Card w/ MindTap Reader 9781337113922

Other learning materials may be required and made available directly to the student and/or via the College's Libraries and/or course management system.

COURSE APPROVAL:

Prepared by: Marie Hartlein

Date: 1/1995

Revised by: Kathleen Kelly

Date: 7/12/2012

VPAA/Provost or designee Compliance Verification:

Victoria Bastecki-Perez, Ed.D.

Date: 9/10/2013

Revised by: Anil Datta

Date: 8/8/2016

VPAA/Provost or designee Compliance Verification:

Victoria Bastecki-Perez, Ed.D.

Date: 8/8/2016

This course is consistent with Montgomery County Community College's mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.