

# **COURSE OUTLINE**

**CMSY-113**

**Database Management**

3 Semester Hours

## **HOWARD COMMUNITY COLLEGE**

### **Description**

After successful completion of this course, students will be able to design and develop a relational database system. The student will use Access as the database management system. Topics include database concepts, database design methodology, and the creation and maintenance of relational databases. Skills covered also include documentation, advanced queries, advanced forms and reports, sharing information with other Microsoft Office programs, data access pages, macros, VBA, and security. Prerequisite: CMSY-103 or CMSY-110.

### **Overall Course Objectives**

Upon completion of this course, the student will be able to:

1. Understand and use database concepts.
2. Design and create databases.
3. Analyze requirements of a project and design a database system, including documentation, using functions and capabilities of the DBMS to accomplish the needed tasks.
4. Maintain a database.
5. Create advanced queries to analyze and update data.
6. Create advanced forms and reports.
7. Integrate Access with other Microsoft Office programs.
8. Manage a database with macros and VBA code.
9. Create a switchboard.
10. Publish Access objects to the World Wide Web.
11. Secure a database with backing up procedures, passwords, and encryption.
12. Apply concepts learned to another database application.

## **Major Topics**

### Database Design

- Guidelines to designing databases
- Design methodology

### Database Management

- Table field properties, relationships, and documentation
- Wizards for designing and creating databases (Table wizard, Performance Analyzer, and Splitter Wizard)
- Sorting, Filtering, and Find/Replace
- Queries (Action, Find Duplicates, Find Unmatched, and Crosstab Queries)
- SQL
- Planning and designing forms, subforms, multi-page forms
- Planning and designing reports
- Integrating Access with other programs: Embedding, Linking, Exporting, Importing
- Using the Web
  - Exporting an Access table to an HTML document
  - Creating a Data Access Page
  - Importing HTML document as an Access table
- Macros: Creating, running, using in forms and reports
- Switchboards: Planning, creating, and modifying
- Introduction to VBA
  - VBA versus macros
  - Introduction to VBA code
- Security
  - Backing up a database
  - Repairing and restoring a database
  - Encryption
  - Passwords

## **Course Requirements**

**Grading/exams:** Specific assignments and procedures for evaluating student performance in the class (i.e., grading) will be described in the individual class syllabus, but will include the following:

1. Written tests
2. Computer hands-on tests
3. Projects