

Common Course Outline
CMSC 233
Internet Database Programming
3 Semester Hours

The Community College of Baltimore County

Description

Internet Database Programming

Discusses SQL, PL/SQL, and embedded programming for the Internet; explores relational databases through the statement of a problem, writing of specifications, designing and creation of database, and writing of programs accessing the database.

Prerequisite: CINS/CMSC 157 or consent of instructor.

Overall Course Objectives

Upon successfully completing the course students will be able to:

1. identify the types of problems that relational databases can solve.
2. design the structure of a relational database.
3. write statements to implement the design of a database.
4. use SQL commands for data retrieval.
5. design "views" for end users.
6. use a Data Dictionary.
7. create procedures, functions, and packages .
8. debug logic-based programming errors.
9. convert input from the user or files.
10. organize code into sub procedures.
11. work in teams to develop a large program.

Major Topics

I. Introduction

- A. The Relational Database
- B. Tabular view of a relation
- C. Relational Algebra

II. SQL

- A. Entering and Executing SQL Commands
- B. Formatting Results
- C. Creating and Altering Tables
- D. Querying the Database
- E. Views
- F. Modifying the Database

III. Embedded SQL

- A. Host Variables
- B. Indicator Variables
- C. Communications Area
- D. Mail-Order Applications

- E. Error Handling
 - F. Transaction Control
 - G. Dynamic SQL
- IV. Programming structures
- A. Data Types and Variables
 - B. Program Control Statements
 - C. Program Structure
 - D. Triggers
 - E. Access Using Cursors
 - F. Records
 - G. Tables
- V. Database Access using Java and/or Oracle
- A. Programming Interface
 - B. Developing Applications
 - D. Database Metadata
 - E. Errors and Warnings

Course Requirements

Grading: Grading procedures will be determined by the individual faculty member, will be provided the first week of class, and will include the following:

1. At least two Tests, Exams, and/or Quizzes: Individual faculty will notify students of the testing procedures to be used.
2. At least three Database computer projects: Students will complete projects outside of class.
3. Comprehensive Final Exam: The course will include a comprehensive final exam, which may include a final project.
4. Final Grades: Grades will be determined by individual faculty members.

Individual faculty members may include additional course objectives, major topics, and other course requirements to the minimum expectations stated in the Common Course Outline.

The Community College of Baltimore County is committed to providing a high-quality learning experience that results in growth in knowledge, attitudes, and skills necessary to function successfully as a transfer student, in a career and as a citizen. To accomplish this goal, we maintain high academic standards and expect students to accept responsibility for their individual growth by attending classes, completing all homework and other assignments, participating in class activities and preparing for tests.

We take seriously our responsibility to maintain high-quality programs and will periodically ask you to participate in assessment activities to determine whether our students are attaining the knowledge, attitudes and skills appropriate to various courses and programs. The assessment activities may take many different forms such as surveys, standardized or faculty-developed tests, discussion groups or portfolio evaluations. We ask that you take these activities seriously so that we can obtain valid data to use for the continuous improvements of CCBC's course and programs.