

Common Course Outline

CINS 234

Database Concepts

3 Semester Hours

The Community College of Baltimore County

Description

Databases Concepts

Provides in-depth coverage of the content of database management systems (DBMS) and their capabilities and limitations; emphasizing relational database design principles, the role of the database administrator, and the data dictionary.

3 credits: 3 lecture hours (this course is delivered in a combination lecture and hands-on format).

Prerequisite: CINS 101 or consent of the Program Director

Overall Course Objectives

Upon completion of this course the student should be able to:

1. Identify the major components of a database
2. Identify the major components of a DBMS
3. Distinguish between the primary database models: hierarchical, network, relational , and object-oriented.
4. Design a database
5. Normalize a database
6. Create a multi-table relational database
7. Create keys
8. Create indexes
9. Implement integrity constraints
10. Code a simple query using SQL
11. Describe the role of a DBA in a business organization
12. Create a database application for a business

Major Topics

1. Components of a Database
2. Components of a Database Management System (DBMS)
3. Comparison of file processing and database processing
4. Functions of a DBMS
5. Functions of the Data Dictionary
6. Role of the Database Administrator (DBA)
7. Database Models
8. Database Design
9. Keys and Indexes
10. Relationships
11. Physical Data Structures
12. Logical Data Structures

13. Entity-Relationship Diagrams
14. Normalization
15. Integrity Constraints
16. Database Maintenance
17. Multi-User Database Processing
18. Journaling/Backing-up
19. Security
20. Database Application Design
21. SQL

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will include the following:

- At least one comprehensive project that entails the development of a business database application.
- At least five written tests
- A comprehensive final exam

Writing: The individual faculty member will determine specific writing assignments.

Other Course Information

This course is the second course in a two-course sequence.
This course is taught in a computerized environment.