

Common Course Outline
CINS 156
Introduction to SQL Using Oracle
3 Semester Hours

The Community College of Baltimore County

Description

Introduction to SQL Oracle

Provides opportunity to work with Oracle database, query and create tables, create objects, enforce integrity, establish security, and improve performance; introduces basics of database design, SQL, and PL/SQL programming as well as the concepts of cursors, collection types, subprograms, and triggers.

Prerequisite: CINS 101 or consent of the Program Director

Overall Course Objectives

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

1. Explain Oracle database concepts and terminology
2. Explain the Oracle architecture
3. Use SQL*PLUS commands
4. Write SQL code
5. Declare and use variables
6. Write subqueries
7. Code in the PL/SQL programming language
8. Use data modeling
9. Create and use tables
10. Create views
11. Create synonyms
12. Create sequences
13. Create and use indexes
14. Develop procedures and functions
15. Define user access
16. Query the data dictionary for object information
17. Create constraints
18. Create cursors
19. Utilize PL/SQL error handling
20. Implement performance and tuning techniques

Major Topics

1. Introduction to Oracle
-- history, concepts, terminology

2. Oracle architecture
 - Oracle instance, background processes, SQL, SQL*PLUS, PL/SQL
3. Oracle queries
 - single row functions, displaying data from multiple tables, group functions
4. Subqueries
 - specifying variables at run time
5. Data modeling and database design
 - ER diagrams
6. Manipulating data
 - altering tables and constraints
7. Creating sequences
8. Creating views
9. Creating indexes
10. User access
 - privileges, roles
11. PL/SQL blocks
 - Cursors, IF statements, Loops, flow in PL/SQL blocks
12. Error handling
13. Tuning and performance

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. Minimum of 8 lab projects
2. Minimum of 5 tests
3. Comprehensive final

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

Other Course Information

This course is required in CIS: Database

This course is an elective in CIS: Programming

This course is taught in a combination of lecture and computerized laboratory environment.

This course is the first course in a two course sequence.

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