

DBA 120: DATABASE PROGRAMMING I

COURSE DESCRIPTION:

Prerequisites: None

Corequisites: None

This course is designed to develop SQL programming proficiency. Emphasis is placed on data definition, data manipulation, and data control statements as well as on report generation. Upon completion, students should be able to write programs which create, update, and produce reports.

Course Hours per Week: Class, 2. Lab, 2. Semester Hours Credit, 3.

LEARNING OUTCOMES:

Upon completing requirements for this course, the student will be able to:

- A. Create a table using Structured Query Language (SQL).
- B. Query a database table using Structured Query Language (SQL).
- C. Update a database table using Structured Query Language (SQL).

OUTLINE OF INSTRUCTION:

- I. Database Design
 - A. Introduction
 - B. Entities and Attributes
 - C. Relationship Basics
 - D. Super/Sub Types and Business Rules
 - E. Relationship Fundamentals
 - F. UIDs and Normalization
 - G. Arcs, Hierarchies, and Recursive Modeling
 - H. Changes and Historical Modeling
 - I. Mapping

- II. Database Programming with SQL
 - A. Introduction
 - B. SELECT and WHERE
 - C. WHERE, ORDER BY, and Introduction to Functions
 - D. Single Row Functions
 - E. JOINS
 - F. Group Functions
 - G. Subqueries
 - H. Ensuring Quality Queries
 - I. Data Manipulation Language (DML)
 - J. Data Definition Language (DDL)

- K. Constraints
- L. Views
- M. Sequences and Synonyms
- N. Privileges and Regular Expressions
- O. Transaction Control Language (TCL)