



Course:	Introduction to SQL
Contact Hours:	24
Pre-requisite:	Computer Literacy/at least six months of experience in an IT environment is recommended

Abstract

This course teaches the basics of SQL and introduces the concepts of database design. Students will get hands on experience with creating database tables and writing queries to retrieve data from the database

Target Audience

- Database Administrators
- Analysts

Course Content

1. Introduction Database Systems

- Introduction to Database systems
- Survey of types of Database systems and what is available on the Market

2. Database Design

- Analyzing a relational model
- What makes a good database table
- Normalization
- Relationships between tables

3. Building the Database

- SQL Server Datatypes
- Creating Tables
- Setting the properties of tables
- Setting the properties of fields
- Creating Primary Keys
- Creating Foreign Keys

4. Querying the Database

- Introduction to SQL
- Simple SELECT statement
- Removing duplicates with DISTINCT
- Column and Table aliases
- Simple CASE expressions
- Introducing the WHERE clause

5. Advanced Queries □

Joining Tables

- Aggregate functions
- GROUP BY clause
- Sorting Data

6. INSERT Statement

- Inserting into specific columns
- Default values
- Inserting from other tables

7. UPDATE Statement

□ UPDATING multiple rows

8. DELETE Statement

- The DELETE Statement
- Deleting an entire table

9. Advanced SQL Statements

- Combined queries
- Triggers
- Stored Procedures
- Transaction processing

Assessment Criteria

In order to achieve Learning Outcome...	The Learner must be able to...
1. Database Design	– Explain 1 st , 2 nd and 3 rd Normal Forms
2. Building the Database	– Create tables – Identify Primary key columns – Set Foreign key relationships
3. Querying the Database	– Write SELECT statements with a WHERE clause
4. Advanced Queries	– Write SELECT statements with JOINS and AGGREGATE functions
5. INSERT Statement	– Insert rows into a table
6. UPDATE Statement	– Update rows in a table
7. DELETE Statement	– Delete rows from a table
8. Advanced SQL Statements	– Add triggers to a table – Create and alter stored procedures

Essential Learning Resources:

Textbook

Sams Teach Yourself: SQL in 10 Minutes