SQL CERTIFICATE

Structured Query Language (SQL) is the industry standard database programming language. It is one of the most in demand skills in occupations that require interaction with data and analyzing data. Through your knowledge of Structured Query Language, you will become more marketable in computer related career fields that pertain to database administration. Learning SQL can also lead to a job that is specific to analyzing data such as a data analyst, a quality assurance analyst, or a business analyst.

You'll first learn about relational database structures, the history and uses of Structured Query Language, and how to use Structured Query Language to create a database, add records to database tables, and how to use SQL queries to extract meaningful data from database tables. You will quickly progress from creating simple SQL queries that query a single table to querying multiple tables simultaneously. You'll also learn how to alter data in a database and how to gather significant statistics from data stored in a database. Finally, you'll learn techniques that will enable you to write powerful queries that perform complicated searches and sorts on your data. This certificate will enhance your competitiveness in the field of database administration and data analyst jobs.

Requirements:

- **Windows 8 or later. Macs are not compatible.**

- **Necessary rights (local administrative rights) to install programs on the computer.**

This Certificate must be taken in the following order:

- **Introduction to SQL:**

Learn how to write SQL code to create and populate database tables and how to write simple SQL queries that are capable of retrieving vast amounts of information from a database. In this course, you will discover the power of the relational database, how to create and manage database tables, and how to use SQL SELECT statements to precisely pinpoint and retrieve data from a database.

- **Intermediate SQL:**

Discover how to write powerful SQL queries that enable you to retrieve data from one table or from multiple tables stored in the database simultaneously. In this course, you will learn how to retrieve more meaningful data from one or more tables stored in a database. You will learn how to merge data from multiple columns, how to create calculated fields, and how to order and group the results from a query. You will also learn how to create a single join query or subquery to obtain data from multiple tables simultaneously.

Students should have a competency in the Introductory level of SQL.

- **Advanced SQL:**

Take your SQL query skills to a new level by learning how to write more advanced SQL queries for enhanced decision making. In this course, you will learn how to write advanced subqueries, advanced join queries, and UNION queries that query more than one table. You will learn how to use transaction processing to ensure SQL statements execute completely or not at all and how to create stored procedures that enable you to store SQL statements for execution.

Students should have a competency in the Introductory and Intermediate levels of SQL.

CEUs/ILUs: 4.8 Length (in hours): 48 Price in CAD $799.00

SQL CERTIFICATE UNITS

Introduction to SQL

Unit 1

The Relational Database and Structured Query Language

- The relational database structure

- Structured Query Language

- Table creation and data insertion

- Defining datatypes and constraints

- Creating Indexes

Unit 2

Table Management

- Table management

- Adding columns to a table

- Deleting columns from a table

- Deleting a table

Unit 3

Selecting and Retrieving Data

- Creating a SELECT statement to retrieve data

- Using DISTINCT to display unique values in a column

- Using the AS keyword to create an alternate name for a column

- Merging columns

Unit 4

Filtering Data

- Creating a WHERE clause

- Using comparison, character, and logical operators to match conditions

- Using the IN operator to match a condition

- Using the BETWEEN operator to match a condition

Intermediate SQL

Unit 5

Creating Calculated Fields and using Aggregate Functions

- Structured Query Language Review

- Creating calculated fields

- Concatenating columns

- Using aggregate functions

Unit 6

Using Clauses in Structured Query Language

- Using the ORDER BY clause

- Using the GROUP BY clause

- Using the GROUP BY clause and WHERE clause

- Using the HAVING clause

Unit 7

Creating Table Joins

- Creating Inner joins

- Creating Outer joins

- Creating Self joins **Unit 8**

Creating Subqueries

- Creating subqueries

- Creating subqueries that contain calculated fields

- Creating subqueries that contain aggregate functions

Advanced SQL

Unit 9

Creating Advanced Subqueries

- Structured Query Language Review

- Using the IN keyword to link queries

- Using the EXISTS keyword to link queries

- Using the ANY keyword to link queries

- Using the ALL keyword to link queries

Unit 10

Creating Advanced Joins

- Creating inner joins review

- Creating outer joins review

- Creating joins with aggregate functions

- Creating nested joins **Unit 11**

Creating Union Queries

- Creating UNION queries

- Creating UNION ALL queries

- Creating a WHERE clause and multiple UNION queries

Unit 12

Transaction Processing, Stored Procedures, Triggers

- Implementing transaction processing

- Implementing stored procedures

- Implementing triggers