COURSE SYLLABUS

SQL Server Certification Online

Master the essentials of querying and managing data with SQL Server as you build skills in writing SQL queries, joining tables, and using functions. You'll also explore database design concepts and prepare for Microsoft certification with hands-on projects and expert instruction.

Group classes (Live Online) and onsite training are available for this course. For more information, email onsite@graduateschool.edu or visit: https://sdfm.graduateschool.edu/courses/sql-server-certification-program



CustomerRelations@graduateschool.edu • (888) 744-4723

Course Outline

This package includes these courses

- SQL Level 1 (6 Hours)
- SQL Level 2 (6 Hours)
- SQL Level 3 (6 Hours)

SQL Level 1

- Understand core database concepts, including tables, rows, columns, and various types of SQL
- Connect to databases and navigate SQL Server Management Studio using tools such as Object Explorer and Query Editor
- Write SELECT statements to retrieve data, specify columns, sort results, and remove duplicates
- Use WHERE, AND, OR, IN, and NOT clauses to filter data and apply pattern matching with wildcard characters
- Explore data types, comparison operators, and case sensitivity to refine queries with more control
- Learn how to join tables using INNER JOIN and understand relational database concepts with ER diagrams and table aliases

SQL Level 2

This intermediate SQL course expands your ability to analyze and manipulate data through advanced querying techniques.

- Compare INNER and OUTER JOIN types and use LEFT, RIGHT, and FULL JOINs to combine data across tables
- Identify and work with NULL values to ensure complete and accurate data analysis
- Use the CAST function to convert data types and make your queries more flexible
- Perform calculations with aggregate functions like SUM, COUNT, AVG, MAX, and MIN to summarize data
- Apply date functions to extract, format, and compare dates for time-based analysis
- Group results using GROUP BY and filter grouped data using the HAVING clause for advanced segmentation

SQL Level 3

- Write subqueries to create layered queries using single-value, multi-value, and table-value structures

- Use window functions with OVER and PARTITION BY to apply aggregate logic across rows without grouping
- Implement conditional logic with CASE and IIF statements to dynamically transform query results
- Manipulate text data using string functions like SUBSTRING, CHARINDEX, UPPER, and more
- Apply self-joins to compare records within the same table and understand their unique structure and use cases
- Build and query views, user-defined functions, and stored procedures to modularize your SQL code