COURSE SYLLABUS

SQL Server Certification (Self-Paced)

Master essential SQL Server skills in a self-paced format, including writing queries, joining tables, and using functions. Explore database design concepts, complete hands-on projects, and prepare for Microsoft certification with 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-self-paced



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Course Outline

This package includes these courses

- SQL Level I (Self-Paced) (6 Hours)
- SQL Level II (Self-Paced) (6 Hours)
- SQL Level III (Self-Paced) (6 Hours)

SQL Level I (Self-Paced)

- Understand core database concepts, including tables, rows, columns, and different types of SQL
- Connect to databases and navigate SQL Server Management Studio using tools like 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 greater control
- Learn to join tables using INNER JOIN and understand relational database concepts through ER diagrams and table aliases

SQL Level II (Self-Paced)

This intermediate SQL course helps you expand your data analysis and manipulation skills with 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, making 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 with the HAVING clause for advanced segmentation

SQL Level III (Self-Paced)

- 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 structure and use cases
- Build and query views, user-defined functions, and stored procedures to modularize your SQL code