



CONTINUING EDUCATION
Course Outline

SQL Programming Level 1

Microsoft SQL Server has evolved to become a true, enterprise information platform. In this course you will learn the fundamental elements of T-SQL, including the definition of DML, DDL, DCL and TCL; review two and three-valued logic and how to work with NULLs; practice T-SQL programming constructs to query and modify a database in SQL Server Management Studio (SSMS); identify the different forms of the JOIN clause; filter data using logical queries; and define constraints to enforce data integrity.

Who Should Take This Course?

This course is designed for those who are interested in using SQL Server Management Studio and building functional real-world databases. Students will also learn a core set of SQL commands necessary to interact with relational databases. This is the second required course in the SQL Server Certificate.

Course Objectives

- Review the fundamental elements of T-SQL.
- Understand NULL values.
- Explore advanced SELECT statements.
- Combine data sets with JOINS, UNION, INTERSECT AND EXCEPT operators.
- Use the INSERT, SELECT INTO, UPDATE, DELETE and TRUNCATE commands to manipulate data in a table.
- Enforce data integrity by using Constraints.

Course Info

- Length: 15 hours
- Format: Classroom instruction, demonstration and hands-on exercises
- Prerequisite: Relational Database Concepts and Design or equivalent

Course Content

Review the fundamental elements of T-SQL.

- Differentiate between SQL and T-SQL.
- Define DML, DDL, DCL and TCL.
- Review T-SQL language elements.

Understand NULL values.

- Work with NULL values.
- Define two-valued logic and three-valued logic.
- Review the functions intended to be used with NULL.



CONTINUING EDUCATION Course Outline

Explore advanced SELECT statements.

- Use table and column aliases.
- Filter data.
- Use ORDER BY, GROUP BY and HAVING clauses.
- Understand CASE expression usage.
- Identify Logical Query Processing Order.

Combine data sets with JOINS, UNION, INTERSECT and EXCEPT operators.

- Demonstrate the differences between INNER JOIN, OUTER JOIN, FULL JOIN, and CROSS JOIN.
- Explore the results with UNION, INTERSECT and EXCEPT operators.

Using commands to manipulate data in a table.

- Use the INSERT command to insert new records into an existing table.
- Use the SELECT INTO command to create a new table and insert new records into it.
- Use the DELETE command to delete records from a table.
- Use the TRUNCATE command to remove all data from a table.

Enforce data integrity by using Constraints.

- Create a Primary Key on a new or existing table.
- Add a Foreign Key to a new or existing table.
- Review CASCADE, SET NULL and SET DEFAULT actions of a foreign key.
- Define UNIQUE, CHECK, and DEFAULT constraint on a new or existing table.
- Disable constraints.

Assessment /Evaluation

This course is not assigned a letter or numerical grade. However, in some cases, skill assessments may be administered during the course to gauge progress and comprehension.

Course Completion Letter

If your company requires proof of course completion, or if you would like to have proof for your own records, you may request a Continuing Education Unit (CEU) letter, **after the final session**. You must attend 80 percent of the course to qualify for the letter.* To request a CEU letter, please stop by the front desk after the last session of class and complete the CEU Request Form.

Certificates of Completion for Certificate Programs

Certificates of Completion are automatically given at the end of the certificate program to those who have registered for a certificate program series (or after Part 2 of the series, when applicable) as long as attendance* and other program requirements have been met. If you complete a certificate program by taking courses individually (not through a series), please stop by the front desk and complete a Certificate



CONTINUING EDUCATION
Course Outline

Request Form. Attendance requirements for certificate programs vary by certificate and can be found by visiting [Certificate Programs & Certifications](#) on our website.

*Attendance for CEU letters and certificate programs is verified via the sign-in sheets provided at each class session. It is the students' responsibility to sign-in.

Green River College is committed to providing access to all who visit, work and study on campus. The College will provide reasonable accommodations for individuals with disabilities, with advance notice of need. If you require accommodations, please contact Disability Support Services as soon as possible to determine eligibility and/or request accommodations. Accommodations are determined on a case-by-case basis. Please contact Disability Support by email at dss@greenriver.edu; by phone at 253-833-9111, ext. 2631; TTY 253-288-3359; or in person at the Student Affairs and Success Center, Room 274, to request accommodations. For additional information, please visit www.greenriver.edu/student-affairs/disability-support-services.htm. The accommodations authorized on your forms should be discussed with your instructor. All discussions will remain confidential. Accommodations are not provided retroactively, so it is essential to discuss your needs at the beginning of the quarter. Additionally, only accommodations approved by Disability Support Services will be provided.

This syllabus is available in alternate formats upon request.

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