



CONTINUING EDUCATION
Course Outline

SQL Programming Level 2

Learn to streamline and extract relevant information for data analysis. Topics include implementing complex queries, utilizing subqueries, derived tables, common table expressions and windowing functions; designing views and inline functions; building stored procedures, user-defined functions and triggers; implementing transactions, error handling and dynamic SQL; identifying locking and isolation levels; and creating indexes.

Who Should Take This Course?

This course is for those who already have demonstrable knowledge of SQL Server and have a desire to enhance their skillset in creating, modifying, and managing SQL databases. This is the third required course in the SQL Server Certificate.

Course Objectives

- Implement complex queries.
- Design views and inline functions.
- Build T-SQL routines.
- Use error handling and dynamic SQL.
- Implement transactions.
- Create indexes.

Course Info

- Length: 12 hours
- Format: Classroom instruction, demonstration and hands-on exercises
- Prerequisite: SQL Programming Level 1 or equivalent

Course Content

Implement complex queries.

- Build subqueries.
- Define derived tables.
- Use common table expressions (CTEs)
- Explore windowing functions

Design views and inline functions

- Create, alter, and drop views using T-SQL.
- Review advantages and restrictions of the views.
- Identify the view options.



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- Modify data through a view.
- Implement inline functions.

Build T-SQL routines and triggers.

- Implement stored procedures.
- Create user-defined functions.
- Define triggers.

Use error handling and dynamic SQL.

- Implement error handling.
- Create dynamic SQL.

Implement transactions.

- Manage transactions.
- Identify locks and isolation levels.

Create indexes.

- Identify how data is accessed in SQL Server.
- Understand types of indexes.
- Create, alter and drop indexes.
- Choose the appropriate indexes.
- Maintain indexes.
- Implement an indexed view.

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



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*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.

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This syllabus is available in alternate formats upon request.

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