



## CONTINUING EDUCATION

### Course Outline

# SQL Programming Level 2

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Learn to streamline and extract relevant information and execute more advanced SQL features. Topics include implementing complex queries; utilizing sub queries and derived tables; 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

- Describe ways to build more complex queries
- Create temp tables
- Use common table expressions (CTEs)
- Create table variables
- Build subqueries

### Design views and inline functions

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

## **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/Continuing Education Unit (CEU) 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 Course Completion/Continuing Education Unit (CEU) letter **after the final session of your course**. You must attend 80 percent of the course (or 100 percent of a single-day course) to qualify for the letter. Attendance is verified through the Sign-in Sheet/Roster. It is your responsibility to sign-in at every session. You can [request a Course Completion/CEU letter online](#).

## **Certificates of Completion for Certificate Programs**

To receive a Certificate of Completion for the SQL Server Certificate, you must take all four required courses; attend 80 percent of each course (calculated by number of sessions in each course), except the Capstone course, where 100 percent attendance is required; participate in class; and successfully complete the SQL Server Capstone project by the deadline given. (Please note: Saturday sessions lasting longer than four hours will count as two sessions.) If you complete a certificate program by taking courses individually (not through a series), you can [request a Certificate of Completion online](#).

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

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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. Green River College is an equal opportunity educator and employer. Learn more at [www.greenriver.edu/accessibility](http://www.greenriver.edu/accessibility).