



CONTINUING EDUCATION

Course Outline

Relational Database Concepts and Design

In today's big data world, managing data efficiently requires analytical skills and the ability to use relational databases. This course introduces you to basic relational database concepts, terminology of relational databases and simple database design. Learn to design efficient relational databases using the principles of SQL. Topics include attaching and detaching a database, creating a database diagram and writing simple SQL statements.

Who Should Take This Course?

This course is designed for students interested in becoming familiar with relational databases and the basic terminology that applies to them. This is the first required course in the SQL Server Certificate.

Course Objectives

- Describe core database concepts
- Use data manipulation language (DML) statements
- Identify core components, definitions and concepts of relational databases
- Demonstrate knowledge of data types
- Create a new table in an existing database

Course Info

- Length: 9 hours
- Format: Classroom instruction, demonstration and hands-on exercises
- Prerequisite: Basic computer skills and Windows proficiency; highly recommended: experience with Excel, Access or any other database

Course Content

Describe core database concepts

- Describe the basic concepts of a database and table
- Review different types of databases
- Describe a relational database and tables
- Identify major players in today's market of RDBMS
- Use SSMS to attach/detach a database and become familiar with three basic windows: Object Explorer, Query Editors, and Results Pane

Use data manipulation language (DML) statements

- Review common DML Statements
- Create and run a simple SELECT statement to retrieve data from a table
- Use a WHERE clause to limit the number of rows returned

- Combine multiple WHERE clauses using the AND, OR and NOT logical operators to retrieve filtered data
- Sort the result set by using the ORDER BY clause

Identify core components and concepts of relational databases

- Identify different database objects
- Implement normalization
- Review referential integrity
- Describe primary key constraints and foreign key constraints
- Understand relational structure with keys and relationship of tables
- Create a database diagram to see the relational structure of tables

Demonstrate knowledge of data types

- Identify different data types and NULL data
- Understand implicit and explicit data conversion
- Review data type precedence

Create a new table in an existing database

- Create a new table using management studio
- Create scripts using management studio
- Use a DROP TABLE statement to remove an existing table
- Write a CREATE TABLE statement to create a table

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.