

## REQUIRED COURSES

### Database Design

Learn how to design and create new databases, as well as work with relationships between tables in existing databases. Students will create databases from scratch and apply formal design processes. Course covers how to identify database fields and data types, and group fields into tables. Students will learn to understand primary and foreign keys, and apply them to database design. Prerequisites: Basic computer skills and working knowledge of Windows.

### T-SQL Query Extensions to SQL

This course presents important Transact-SQL (T-SQL) query features that extend industry-standard SQL, so you can be more productive with SQL Server. Topics: comparing tables, table-function operators, hierarchical data, merging data. Some of these features are new in SQL Server 2008. Prerequisite: SQL: Structured Query Language. Recommended: SQL Server 2008 Introduction.

### SQL Server 2008 Introduction

Learn how to perform a core set of job-related tasks, with a focus on the tools available from within the SQL Server Management Studio (SSMS). The course shows how to create, attach, and manage databases, then covers using tools to automatically generate queries, which can then be saved, reused, and combined. Learn how to set up and configure security, and configure SQL Server-related services. The course also covers SQLCMD and other tools outside of SSMS. Prerequisites: SQL: Structured Query Language class and Database Design or equivalent.

### SQL Server 2008 Administration (Advanced)

In this fast paced class, you learn the advanced techniques required by all database administrators. The course is designed to quickly provide you with the tools to keep your SQL databases accessible and healthy. Starting with installation tips and guidelines, the class guides you through the recommended best practices for SQL Server maintenance, data management tasks, index strategies, system monitoring, and troubleshooting. Prerequisites: T-SQL Query Extensions to SQL and SQL Server 2008 Introduction.

### SQL Server 2008 Security

Learn how the security system works within SQL Server. Students will apply permissions ranging from individual items up to entire servers. Learn how to combine individual and role based permissions to determine effective permissions to databases and database objects. Topics include: logins, users, roles, authentication modes, permissions, securables, and linked servers. Prerequisite: SQL Server 2008 Introduction.

### PowerShell

Windows PowerShell is a new utility that greatly extends the scripting capabilities of Windows. Built on the .NET Framework, PowerShell is both a new language and a new interface for administering Windows. If you manage a Windows system, PowerShell will make it easier to automate much of your work. Learn how to create and debug PowerShell scripts; manage files, the registry, printing, shares and logs. Prerequisites: Windows folder and file management and Basic Programming Essentials.

### SQL Server 2008 Optimization and Performance Tuning

As a database grows both in size and the number of transactions it supports, its performance can erode significantly unless it is actively managed. Learn how to minimize the risk of performance problems when creating a new database, detect emerging performance problems before they create an impact for users, and apply effective troubleshooting techniques for resolving chronic performance problems. Course also covers how to set up, monitor, tune, and maintain databases to ensure performance. Prerequisites: T-SQL Query Extensions to SQL and SQL Server 2008 Introduction.

### C# Programming: Level 1

Dive into the .NET world with this fundamentals class. Topics include: conditional statements, objects, structures, arrays, classes, inheritance, exception handling, string formatting, file handling, and language fundamentals. Prerequisite: Introduction to Programming using C# or equivalent knowledge and experience.

### T-SQL Programming

Learn advanced techniques in using Microsoft's Transact-SQL (T-SQL). You will create advanced queries, views, stored procedures, functions, triggers, and transactional statements. Learn how to protect code execution and database objects with constraints and structured error handling. RDBMS design and scaling options will be learned by using schemas and partitioned tables. Students will design, implement SQL code and create scripts of increasing complexity during the course. Prerequisites: Introduction to Programming using C# and T-SQL Query Extensions to SQL.

### ADO.NET

This course will provide you with an in-depth look at ADO.NET using C#. Topics: ADO.NET Data Providers, Connections, Commands, Stored Procedures, DataReader, and DataSet. Plus ADO.NET Entity Framework, Entity Data Model (EDM), ADO.NET Data Service, and LINQ to Entities. Prerequisites: SQL: Structured Query Language, C# Programming: Level 1, Visual Studio experience.

### Database Testing Concepts

For testers unfamiliar with database concepts, learn the elements of good relational database design with emphasis on analyzing existing database designs and uncovering design flaws. First, second, and third normal form will be covered with an emphasis on generic and essential database testing concepts. Prerequisite: Familiarity with computers. Recommended: Introduction to Testing.

### XML Introduction

Extend your Web authoring expertise with eXtensible Markup Language. Learn what most Web developers believe will be the "last Web language standing." Topics include setting up and using an XML authoring environment, using Namespaces, validating XML documents, applying CSS and XSL stylesheets, manipulating trees using DOM, transforming XML to XML and XHTML documents. Prerequisites: XHTML: Levels 1 and 2 and Cascading Style Sheets: Level 1.

### Excel: Level 3

This course extends your intermediate skills and knowledge of Microsoft Office Excel 2007 into some of the more specialized and advanced capabilities of Excel by automating some common tasks, applying advanced analysis techniques to more complex data sets, collaborating on worksheets with others, and sharing Excel data with other applications. Prerequisites: Excel: Level 1 and 2 or equivalent experience.

### SQL Server 2008 Reporting Services (SSRS)

Learn the advanced functionality, report server administration and security issues of SQL Server 2008 Reporting Services. Topics: advanced report design, strategies for business/support systems, rendering reports using .NET code, using tools to define data sources/semantic metadata models, using parameters/expressions/advanced object-oriented programming techniques. Prerequisite: T-SQL Programming.

### SQL Server 2008 Integration Services (SSIS)

Plan, implement and maintain a data warehouse using SQL Server 2008. Topics: designing a warehousing system, implementing a database designed with star/snowflake schemas, and gathering/transforming/placing data from diverse data sources in a SQL Server staging database. Prerequisite: SQL Server 2008 Introduction.

### SQL Server 2008 Analysis Services (SSAS) and Business Intelligence

Gain hands-on experience with the BI tools in SQL 2008. Topics: data warehousing/data mining techniques; Star and Snowflake schema databases; developing multi-dimensional cubes; applications of analysis modeling; utilizing integration services, including ETL; and database reporting services. Prerequisite: Familiarity with SQL and relational database design. Recommended: SQL Server 2008 Introduction or equivalent.

FOR COMPLETE COURSE AND SCHEDULE INFORMATION GO TO:

[www.gotobcc.com/ce/database](http://www.gotobcc.com/ce/database)

## CONTINUING EDUCATION

### Database Certificate Programs

Job-ready skills taught by  
database professionals



[www.gotobcc.com/ce/database](http://www.gotobcc.com/ce/database)



# Certificate Program Overviews

## Database Administrator

A Database Administrator designs, builds, and manages effective database systems. This field is projected to be one of the fastest growing occupations over the next six years. This certificate program prepares students to perform maintenance tasks, such as back up and restore a database, integrate data from various sources, troubleshoot problems, implement security, ensure database availability and performance, and coordinate activities with network and Web administrators.

### REQUIRED COURSES

133 hours total plus Capstone

Database Design	8 hours
T-SQL Query Extensions to SQL	18 hours
SQL Server 2008 Introduction	21 hours
SQL Server 2008 Administration (Advanced)	28 hours
SQL Server 2008 Security	20 hours
PowerShell	8 hours
SQL Server 2008 Optimization and Performance Tuning	30 hours
Database Administrator Certificate Capstone	TBA

### ELECTIVES

18 hours minimum

SQL Server 2008 Integration Services (SSIS)	24 hours
C# Programming: Level 1	30 hours
T-SQL Programming	33 hours
Database Testing Concepts	18 hours
SQL Server 2008 Reporting Services (SSRS)	32 hours

### FOR MORE INFORMATION:

- Get full course and schedule information at [www.gotobcc.com/ce/database](http://www.gotobcc.com/ce/database)
- Attend a free Database Certificate information session. Call (425)564-2263 for dates
- Questions about the program? Contact Computer Programs at (425)564-4005

## Database Developer

A Database Developer designs and creates databases and programs that control how users interact with those databases. Without such programs, a database can be compromised, resulting in data loss or corruption. The Database Developer Certificate Program prepares students to design and build efficient database structures, design and write effective database control programs, assure data integrity, handle errors, optimize queries, test databases and programs, communicate with client applications, and prevent malicious attacks.

### REQUIRED COURSES

190 hours total plus Capstone

Database Design	8 hours
SQL Server 2008 Introduction	21 hours
Database Testing Concepts	18 hours
T-SQL Query Extensions to SQL	18 hours
C# Programming: Level 1	30 hours
T-SQL Programming	33 hours
ADO.NET	24 hours
SQL Server 2008 Optimization and Performance Tuning	30 hours
XML Introduction	8 hours
Database Developer Certificate Capstone	TBA

### ELECTIVES

20 hours minimum

ASP.NET	27 hours
SQL Server 2008 Analysis Services (SSAS) and Business Intelligence	44 hours
SQL Server 2008 Integration Services (SSIS)	24 hours
PowerShell	8 hours
Access: Level 1	7 hours
Data Analysis and Business Modeling with Excel 2007	14 hours
SQL Server 2008 Reporting Services (SSRS)	32 hours
C# Programming: Level 2	30 hours

## Database Business Intelligence Analyst

A Database Business Intelligence (BI) Analyst organizes a company's operational data into formats that can be queried using BI analysis tools. The resulting reports show trends and patterns that can help a company make better business decisions. The Database Business Intelligence Analyst Certificate Program prepares students to design and create data warehouses and OLAP cubes, use BI analysis tools to query data, use MDX to query OLAP cubes, and create reports based on queries you create.

### REQUIRED COURSES

154 hours total plus Capstone

Database Design	8 hours
SQL Server 2008 Introduction	21 hours
T-SQL Query Extensions to SQL	18 hours
SQL Server 2008 Analysis Services (SSAS) and Business Intelligence	44 hours
SQL Server 2008 Integration Services (SSIS)	24 hours
Excel: Level 3	7 hours
SQL Server 2008 Reporting Services (SSRS)	32 hours
Database Business Intelligence Analyst Certificate Capstone	TBA

### ELECTIVES

20 hours minimum

ASP.NET	27 hours
ADO.NET	24 hours
T-SQL Programming	33 hours
C# Programming: Level 1	30 hours
Data Analysis and Business Modeling with Excel 2007	14 hours
Web Analytics	9 hours

Register by phone at (425) 564-2263  
or online at [www.gotobcc.com](http://www.gotobcc.com)