APPLIED TECHNOLOGY ACADEMY

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Introduction to SQL Databases (55315)

Microsoft Authorized Training · Applied Technology Academy

This three-day instructor-led course is aimed at people looking to move into a database professional role or whose job role is expanding to encompass database elements. The course describes fundamental database concepts including database types, database languages, and database designs. This course updates and replaces course 10985C previously published under the same title.

LEVEL	DURATION	EXPERIENCE	AVERAGE SALARY	LABS
Beginner	**3 Days**	**General Computer Literacy**	**$65,000**	**Yes**

Course Overview

- Describe key database concepts in the context of SQL Server
- Describe database languages used in SQL Server
- Describe data modeling techniques
- Describe normalization and denormalization techniques
- Describe relationship types and effects in database design
- Describe the effects of database design on performance
- Describe commonly used database objects

Course Outline

- 1 - Introduction to Databases
- Introduction to Relational Databases
- Other Databases and Storage
- Data Analysis
- SQL Server Database Languages
- 2 - Data Modeling
- Data Modelling
- Designing a Database
- Relationship Modeling
- 3 - Normalization
- Fundamentals of Normalization
- Normal Form
- Denormalization
- 4 - Relationships

- Introduction to Relationships
- Planning Referential Integrity
- 5 - Performance
- Indexing
- Query Performance
- Concurrency
- 6 - Database Objects
- Tables
- Views
- Stored Procedures, Triggers and Functions

Intended Audience

The primary audience for this course is people who are moving into a database role, or whose role has expanded to include database technologies. Developers that deliver content from SQL Server databases will also benefit from this material.

Prerequisites

Basic end-user computer skills and some familiarity with database terminology and structure are required. Completion of one of the following courses or equivalent knowledge and skill is highly recommended:

- Using Microsoft® Windows® 10
- Microsoft® Windows® 10: Transition from Windows® 7
- Course-specific Technical Requirements

Hardware:

Each computer will need the following minimum hardware configurations:

- 2 GHz or faster 64-bit (x64) processor
- 4 gigabytes (GB) RAM
- 40 GB available hard disk space
- CD-ROM drive (if installing any software from a CD-ROM)
- Keyboard and mouse (or other pointing device)
- 1024 x 768 (or higher) resolution monitor recommended
- Network cards and cabling for local network access
- Internet access (contact your local network administrator)
- Printer (optional) or an installed printer driver
- Projection system to display the instructor's computer screen

Software:

To prepare a system for the class, install the following software according to the instructions provided. You will need the following:

Microsoft® Windows® 10 64-bit with sufficient licenses.

Windows 10 requires activation unless you have volume-licensing agreements. There is a grace period for activation. If the duration of your class will exceed the activation grace period (for example, if you are teaching the class over the course of an academic semester), you should activate the installations at some point before the grace period expires. Otherwise, the operating system may stop working before the class ends.

Microsoft® SQL Server® 2022 Express. (When this course was written, the installation file for this free software was available for download from https://www.microsoft.com/en-us/sql-server/sql-server-downloads .)

Microsoft® SQL Server® Management Studio (SSMS). (When this course was written, the installation file for this free software was available for download from https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio- ssms .)

Follow-On Courses

- Administering a SQL Database
- SQL Querying Fundamentals

Ready to enroll? Call 800.674.3550 or email Info@AppliedTechAc.com — private team cohorts, GSA MAS purchasing, military credentialing funding, VA GI Bill and VR&E and student financing available.