Course Overview

This course has been designed with the intention that, by the end of the course (even if you begin this course as a novice) you will have acquired the skills you need to use SQL as a data analyst in your business environment. In this course, you will have developed practical skills from realistic experiences with two different big business databases, using two different database formats. You do not need prior programming or database experience to be successful in this course, nor do you need to have completed the other courses in this specialization.

We have purposefully designed the course to build your knowledge and confidence by first presenting information in video format, then providing you with ungraded practice exercises containing instructions (and answer keys) for you to follow along, and then (beginning in Week 2) providing you with more complex ungraded practice exercises (without explicit answer keys). Finally, we provide you with graded quizzes where you will be asked to incorporate the skills from all of the ungraded practice work you have completed. The ungraded exercises will be challenging, but we expect you to take the time to complete them. We also expect you to ask questions in the forums and on external sites like stackoverflow.com (a community of 4.7 million programmers) when you need help, just as professional data analysts do when they reach a problem they need help with. If you want to be able to use SQL in your job on a regular basis, it is important that you are able to work through queries with this level of difficulty.

You will see that each week of the course builds on the week before, and the concepts and queries become more complex and take longer to master and complete. Therefore, please make sure you feel comfortable with the material in a given week before you continue to the next one, and make sure you plan out your schedule so that you allow yourself enough time later in the course to thoroughly absorb the material, to ask questions when necessary, and to try and rework your queries until you get the right outcomes.

Remember: when you complete this course you will have marketable skills with big data analysis in SQL! The benefits you will enjoy will be well worth your time and effort!

By the end of this course, you will know how to:

1. Describe the structure of relational databases;

2. Interpret and create entity-relationship diagrams and relational schemas that describe the contents of specific databases;

3. Write queries that retrieve and sort data that meet specific criteria, and retrieve such data from MySQL and Teradata databases that contain over 1 million rows of data;

4. Execute practices that limit the impact of your queries on other coworkers;

5. Summarize rows of data using aggregate functions, and segment aggregations according to specified variables;

6. Combine and manipulate data from multiple tables across a database;

7. Retrieve records and compute calculations that are dependent on dynamic data features, and translate data analysis questions into SQL queries.

This course will provide you with a highly coveted skill set, making you a very attractive candidate to data analyst recruiters. You will also have a powerful set of tools to help provide real, tangible value to your business. Many opportunities will open up for you as you embrace this important feature of the data-driven business world.

Course Logistics

To achieve a comprehensive understanding of the material presented in this course, we recommend learners work through the material sequentially. To work through the introductory material, you should begin the course content material starting with "Welcome to Managing Big Data with MySQL" video. There is a great deal of helpful information in the Course Resources. Please look through the resources we have provided, as they will become a tremendous help as you work through this course.

- Course Certificates - earning a certificate, verification, and financial aid
- Assignments - practice exercises and graded quizzes
- Sessions - session deadlines and switching sessions
- Subscriptions - What are subscriptions and how do they work with this specialization?
- Video Information - transcripts, subtitles, and help trouble shooting
- Discussion Forums - using the forums and searching the forums for answers
- Jupyter Exercises - Beginning in week 2, you will access Jupyter (a web-based interface that allows you to practice MySQL queries online without having to download, install and configure MySQL and a database on your own computer). Each learner will have her or his own private Jupyter folder containing files called "notebooks," each of which includes a series of exercises in which you can practice various features of MySQL. The notebooks all allow you to connect to a real world database (Dognition) so when you run queries in your Jupyter notebooks, you will be querying that database.
- Viewpoint (Teradata Database System) Exercises - Viewpoint is a web-based portal to the Teradata Database System at the University of Arkansas, which is being donated by University of Arkansas to the students in this MOOC. We will use Viewpoint to complete database queries that will serve as the basis for some ungraded exercises, as well as the graded quizzes in this course.
- About the Course Team - learn about the team that made this course possible

✓ Complete