## 5. Learning Outcomes and Assessments

As a result of taking this course, students are expected to be able to demonstrate

the following:

1. Apply basic Select, Create, Update, and Delete functions using SQL
2. Explain how to properly implement SQL-based databases for addressing common business challenges
3. Clear understanding of various models of database architecture and workflows for using databases in live business settings

|  |  |  |  |
| --- | --- | --- | --- |
| Dates | Week | Topics/Activities | Tasks/Assignment(s)\* |
| 10/25/2025 | 1 | * Introductions, orientation * Syllabus review * Basics of the relational data model: organizing and grouping data * Installing MySQL * Installing Tableau * Data Types | * Organizing and grouping data * Working MySQL install * Working Tableau install |
| 10/27/2025  11/03/2025 | 2 | * Creating your first database * Creating your first tables * Importing CSV data into existing tables * Writing simple SQL code to retrieve data (no WHERE or ORDER BY clauses) | * product database * Tables: movies, genres, screenings, theaters |
| 11/08/2025  11/10/2025 | 3 | * Writing SQL code to retrieve data (using WHERE or ORDER BY clauses) * Joining tables * Managing missing data (NULL) * Basic, row-level arithmetic | * Limiting and sorting data * Inner and Outer joins * Adding/dividing |
| 11/17/2025 | 4 | * Grouping data: GROUP BY * Aggregating data (COUNT, SUM, AVG, MIN, MAX) * Ranking data: RANK() functions | * Grouping, aggregating, and ranking data to make decisions |
| 11/22/2025 11/24/2025 | 5 | * Using dates and times to understand intervals and durations * Extracting the components of a date or a time | * Performing date or time math * Using date parts to track events |
| 12/01/25 | 6 | * Turning data into value | * Project: monetizing data |
| 12/06/2025 12/08/2025 | 7 | * Large datasets: How big is big? | * Present project |

\* Further details of each assignment will be provided in Moodle/Github