

# MySQL Complete Course Outline (30 Lectures × 45 min)

## Introduction & Setup (Lectures 1-3)

- Lecture 1: Introduction to Databases and MySQL
- Lecture 2: Installing MySQL Server and Workbench
- Lecture 3: Basic Database and Table Operations (CREATE, USE, DROP)

## SQL Basics & Data Manipulation (Lectures 4-9)

- Lecture 4: SELECT Statements and Filtering Data (WHERE, LIKE)
- Lecture 5: Sorting & Limiting Data (ORDER BY, LIMIT)
- Lecture 6: Aggregate Functions (SUM, COUNT, AVG, MAX, MIN)
- Lecture 7: GROUP BY and HAVING Clauses
- Lecture 8: Inserting, Updating, Deleting Records (INSERT, UPDATE, DELETE)
- Lecture 9: Working with NULLs and Data Types

## Table Management & Relationships (Lectures 10-14)

- Lecture 10: Creating Tables with Constraints (PRIMARY KEY, FOREIGN KEY)
- Lecture 11: ALTER TABLE – Adding, Modifying Columns
- Lecture 12: Joins – INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN
- Lecture 13: Subqueries and Nested SELECTs
- Lecture 14: Indexes and Views

## Advanced SQL Queries & Transactions (Lectures 15-18)

- Lecture 15: Stored Procedures and Functions
- Lecture 16: Triggers and Events
- Lecture 17: Transactions – COMMIT, ROLLBACK, SAVEPOINT
- Lecture 18: Normalization and Database Design Principles

## Performance & Security (Lectures 19-22)

- Lecture 19: Query Optimization and EXPLAIN Plan
- Lecture 20: Backup & Restore Strategies
- Lecture 21: User Management and Privileges
- Lecture 22: Security Best Practices and Encryption

## MySQL with Programming Languages (Lectures 23-26)

- Lecture 23: Connecting MySQL with Python
- Lecture 24: Connecting MySQL with PHP
- Lecture 25: Connecting MySQL with Node.js
- Lecture 26: Using ORMs with MySQL (e.g., SQLAlchemy, Sequelize)

## Real-World Projects & Tools (Lectures 27-30)

- Lecture 27: Building a Sample Database-driven Application
- Lecture 28: Using MySQL Workbench & Admin Tools
- Lecture 29: Monitoring and Troubleshooting MySQL
- Lecture 30: Latest MySQL Features and Future Trends

Drushiti Udayaman