Here's a simple breakdown of an SQL course in bullet points:

**1. Introduction to SQL**

* What is SQL (Structured Query Language)?
* History and importance of SQL
* SQL in relational databases

**2. Basic SQL Syntax**

* SQL statements and clauses
* Case sensitivity in SQL
* SQL comments

**3. Database Design and Structure**

* Understanding tables, columns, and rows
* Primary keys and foreign keys
* Data types in SQL (e.g., INT, VARCHAR, DATE)

**4. SELECT Statement**

* Basic SELECT query
* Filtering data with WHERE clause
* Sorting data using ORDER BY
* Limiting records with LIMIT

**5. SQL Operators**

* Comparison operators: =, <>, >, <, >=, <=
* Logical operators: AND, OR, NOT
* BETWEEN, IN, LIKE, and IS NULL operators

**6. SQL Joins**

* INNER JOIN
* LEFT JOIN (LEFT OUTER JOIN)
* RIGHT JOIN (RIGHT OUTER JOIN)
* FULL OUTER JOIN
* CROSS JOIN
* Self Join

**7. Grouping Data**

* GROUP BY clause
* Aggregate functions: COUNT(), SUM(), AVG(), MIN(), MAX()
* HAVING clause (Filtering grouped data)

**8. Subqueries**

* Subqueries in SELECT, WHERE, and FROM clauses
* Nested subqueries
* Correlated subqueries

**9. Modifying Data**

* INSERT INTO statement
* UPDATE statement
* DELETE statement
* TRUNCATE statement

**10. SQL Constraints**

* NOT NULL, UNIQUE, CHECK, DEFAULT
* PRIMARY KEY and FOREIGN KEY constraints

**11. Indexes**

* What are indexes?
* Creating and dropping indexes
* Types of indexes (e.g., UNIQUE, FULLTEXT)

**12. Views**

* What are views?
* Creating and dropping views
* Benefits and limitations of views

**13. Transactions and Locks**

* What is a transaction?
* COMMIT, ROLLBACK, and SAVEPOINT
* ACID properties (Atomicity, Consistency, Isolation, Durability)
* Locking mechanisms (optimistic and pessimistic locking)

**14. Stored Procedures and Functions**

* What are stored procedures?
* Creating, altering, and dropping procedures
* Functions vs. stored procedures
* Parameters in procedures and functions

**15. Triggers**

* What are triggers?
* Types of triggers: BEFORE, AFTER, INSTEAD OF
* Creating, altering, and dropping triggers

**16. Advanced SQL Topics**

* Transactions and concurrency control
* CTE (Common Table Expressions)
* Window Functions (e.g., ROW\_NUMBER(), RANK())
* Recursive queries

**17. SQL Optimization**

* Query performance tuning
* EXPLAIN plan
* Index optimization
* Avoiding N+1 queries

**18. SQL Security**

* User management and permissions
* Granting and revoking privileges
* SQL Injection and prevention techniques

**19. SQL in Practice**

* Real-world examples of SQL in applications
* Connecting SQL to web applications
* Best practices for writing efficient queries

**20. SQL Best Practices**

* Naming conventions
* Formatting SQL queries for readability
* Avoiding common SQL pitfalls

This outline covers the basics and some advanced topics of SQL, providing a comprehensive understanding from the ground up.