Textbook chapters are listed with the associated topics.
Also, consider the associated Links and References (Canvas, On-Line) provided in the class schedule.

Topics:

- **Ch 1: Introduction**
  - Databases (What?, Why?, How?)
  - Relational Data Model and Databases
  - Database Design
  - Database Architecture
- **Ch 2: Relational Algebra**
  - Structure of Relational Databases
  - Database Schema
  - The Relational Algebra
    - Select
    - Project
    - Set Operators (union, intersection and set-difference)
    - Join
    - Cartesian Product
    - Renaming
- **Chs 3, 4 and 5: SQL**
  - Overview of The SQL Query Language
  - SQL Data Definition
  - Keys (Super Keys, Candidate Keys, Primary key, Foreign Keys)
  - Basic Query Structure of SQL Queries
    - Select, Insert, Update, Delete
  - Order By
  - Set Operations (Union, Intersection and Set-difference)
  - Null Values
  - Aggregate Functions (count, min, max, sum, avg)
  - Grouping, Having Clause
  - Subqueries (Nested Queries)
  - Join Expressions
    - Natural (Inner) Join, Left (Outer) Join, Right (Outer) Join, Self Join
  - Views
  - Integrity Constraints
  - SQL Data Types and Schemas
  - Authorization
  - Functions and Procedures
  - Triggers

- **Ch 6: Database Design Using The E-R Model**
  - The Entity-Relationship Model
  - Complex and multi-value Attributes
  - Mapping Cardinalities
  - Transfer ER to Relational Schema
- **Ch 7: Relational Database Design**
  - Functional Dependencies (FDs)
  - Armstrong's Axioms (6 rules)
  - Closure algorithm, Keys, All FDs and imply a FD
  - Normalization
    - Normal Forms (1NF, 2NF, 3NF, BCNF, 4NF, 5NF)