

## 1 Readings

The following is a list of materials in the course textbook which correspond to lectures given by S. Hegner. For each chapter or section, a symbol is given which indicates the nature of coverage in the course. The meaning of these symbols is provided in the table below.

✓	Material will be covered in the course.
✦	Material will be covered partially or selectively.

Note the following:

- If an entire chapter is covered, no section-by-section breakdown is given.
- If an entire section is covered, no subsection-by-subsection breakdown is given.
- In general, omitted items will not be covered. However, the possibility that some covered material may appear in an omitted chapter or section remains.
- There are topics which are covered in the lectures but not in the textbook (at least not in detail). Questions on these topics may nevertheless appear on the examinations.

### 4 Intermediate SQL

4.6 Authorization ✓

### 10 Storage and File Structure

10.7 Data-Dictionary Storage ✓

10.8 Database Buffer ✓

### 12 Query Processing

12.1 Overview ✓

13.2 Measures of Query Cost ✓

13.3 Selection Operation ✦

13.4 Sorting ✦

13.5 Join Operation ✓

### 13 Query Optimization

13.1 Overview ✓

13.2 Transformation of Relational Expressions ✦

### 14 Transaction Management ✓

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### 15 Concurrency Control

- 15.1 Lock-Based Protocols ✓
  - 15.1.1 Locks ✓
  - 15.1.2 Granting of locks ✓
  - 15.1.3 The Two-Phase Locking Protocol ✓
  - 15.1.4 Implementation of Locking ✦
- 15.2 Deadlock Handling ✓
- 15.3 Multiple Granularity ✓
- 15.5 Validation-Based Protocols ✦
- 15.6 Multiversion Schemas ✓
- 15.7 Snapshot Isolation ✓
- 15.8 Insert Operations, Delete Operations, and Predicate Reads ✓
- 15.9 Weak Levels of Consistency in Practice ✓

### 16 Recovery System

- 16.1 Failure Classification ✓
- 16.2 Storage ✓
- 16.3 Recovery and Atomicity ✓
- 16.4 Recovery Algorithm ✓
- 16.5 Buffer Management ✓
- 16.6 Failure with Loss of Nonvolatile Storage ✓
- 16.7 Early Lock Release and Logical Undo Operations ✦
- 16.9 Remote Backup Systems ✦

### 19 Query Optimization

- 19.7 Distributed Query Processing
  - 19.7,2 Semijoin Strategy ✓