CSC430/530 – Database Management Systems
Final Exam study guide

Lessons 7.1, 7.2, 7.3 – SQL, Complex SQL, Triggers & Views.
    <u>Theory</u> – **Lesson notes.**
        Data Definition Language (DDL).
            List DDL commands.
        Data Manipulation Language (DML).
            List DML commands.
        Describe basic form of a retrieval query.
        Describe extended (complex) form of a retrieval query.
        Triggers – definition & purpose.
        Views – definition & purpose.
    <u>Practice</u> – **Lab 1, 2 & 3.**
        Write a simple query.
            SELECT – FROM – WHERE.
        Write a complex query.
            SELECT – FROM – WHERE – GROUP BY – HAVING – ORDER BY.

Lesson 8 – Functional Dependencies & Normalization.
    <u>Theory</u> – **Quiz #4.**
        Informal relational design guidelines (brief, slide 4).
        Functional dependency – definition & purpose.
        Relation normalization process.
            Goals of relation normalization process.
        First normal form (1NF) – definition.
        Second normal form (2NF) – definition.
            Definition of full functional dependency.
            Definition of partial functional dependency.
        Third normal form (3NF) – definition.
            Definition of transitive dependency.
    <u>Practice</u> – **Assignment 4 + Lesson 8 examples** (slide 17, slides 22-24, slide 26, slide 28, slides 29-32).
        Given a state of a relation, define if given functional dependencies hold.
        Given a relation, define in which highest normal form (1NF, 2NF or 3NF) it is.
        Given a relation, normalize it up to third normal form (3NF).

Lesson 9 – Indexing Structures.
    <u>Theory</u> – **Lesson notes.**
        File record – definition & types.
        Spanned & unspanned records – definition.
        List types of file organizations.
        Hashing – definition & purpose.
        Indexes – definition & purpose.
        Primary, cluster & secondary indexes – description.
        Multilevel indexes – description & purpose.
    <u>Practice</u> – **Assignment 5 + Examples in class.**
        Given sizes of disk block, block pointer, record pointer, and attributes of record, calculate
        record size, blocking factor, and number of blocks.