Stevens Institute of Technology
Castle Point on Hudson
Hoboken, NJ 07030

CS561: Database Management Systems I
Summer, 2022

Professor Samuel Kim

OBJECTIVES:

Students will become acquainted with the fundamental concepts of database management systems during class. Presentations will emphasize relational databases in both theory and practice. If time permits, additional topics such as *Data Warehousing* and *Data Mining* will also be covered.

PRE-REQUISITE:

Students are expected to have good familiarity with mathematics and logic – having taken CS590 (Introduction to Data Structures and Algorithms) or the equivalent.

TEXT:

Database System Concepts (5th Edition) – Required
by Silberschatz, Korth & Sudarshan (ISBN: 0072958863), McGraw Hill

Database Systems: The Complete Book (2nd Edition) – Reference
by Garcia-Molina, Ullman & Widom (ISBN: 978-0131873254), Prentice Hall

TOPICS:

Introduction (Ch. 1), Relational Model (Ch. 2), SQL (Ch. 3), Advanced SQL (Ch. 4), Relational Database Design and the E-R Model (Ch. 6), Relational Database Design (Ch. 7) and Data Warehousing, Data Mining, and OLAP (Ch. 8), if time permits.

GRADING:

- Homework Assignments: 25%
- Mid-term Exam: 30%
- Final Exam: 45%

There will be a variety of home assignments including SQL programming assignments and written assignments (e.g., exercise questions at the end of each chapter). There will be 2 to 3 SQL programming assignments. The written assignments will not be graded but they are an important part of the course, so you should make sure you are able to solve them on your own. The SQL programming assignments submitted by each student must be his/her own. The Stevens Honor System will be strictly enforced, and any violation will result in the grade of F for the course. There will be **no make-ups or late submissions** – Please **be sure to check your queries before the final submission**. Class participation is strongly encouraged and will be used to resolve borderline grades.

PROGRAMMING ENVIRONMENT:

Students are encouraged to use their own machines (e.g., laptops) for all of the SQL programming assignments. *PostgreSQL* is the relational DBMS for the course.

MISCELLANEOUS:

I may be out of town a couple times during the semester. Announcements will be posted once the arrangements are made for the make-up lectures.

- **IMPORTANT** – Please use **Canvas** to send all of your emails to me and the TAs. Please do not use any other email accounts, including the Stevens accounts, as it will impede my ability to provide timely responses.