

Apply theoretical knowledge and practical skills to develop database applications using DBMS and SQL language

Effectively use the Entity Relationship Diagram for the representation of conceptual schemas.

Identify functional dependencies and apply normalization algorithms.

Use Data Definition Language to define database schemas.

Construct data retrieval procedures using the Data Manipulation Language

second and subsequent incidents will be loss of all points on the assignment and a report to the Office of Student and Ethical Conduct.

Pop Quizzes & Pop Questions

Unannounced pop questions and pop quizzes may be given anytime during class. **Each student MUST bring your laptop computer to the classroom for pop quizzes and for hands on exercises.** The purpose of pop quizzes and pop questions is to encourage you to learn, study and review the concepts and materials presented/discussed in the lecture. These will generally be problems covered in that day's or previous lecture. You will be called to answer pop questions anytime during the lecture. If your name is called and no response or you give incorrect answers, 0 points will be recorded. There will be approximately 8-10 pop quizzes and several pop questions during the semester. Each pop quiz/pop question will be scored/weighted evenly. In the end of semester, the top 80% of your pop quizzes will be selected for calculating your final score of your pop quizzes. In other words, you can drop the bottom 20% (lowest scores) of your pop quizzes. However, **if you miss a class and miss a pop quiz, it counts 0 point and it cannot be dropped. Each missing pop quiz is scored as 0 point and must be used to calculate your final score.**

Midterm and Final Exams

Exams will consist of questions and problems aimed at assessing student mastery of course topics. Conceptual questions may be in the form of essay or multiple-choice format. Problems will require the production of (or correction of) SQL code, data models, or similar output. All exams are closed books and notes.

If you are unable to attend any one of the exams, arrangements may be made only if you have a legitimate reason. You need to inform your instructor ahead of time and have written documentation available. If you are unable to attend the exam due to illness or emergency, you also need to inform your instructor **before the exam** and bring documentation afterwards to request a make-up exam, or the points for that exam will be allocated to other exams.

Database Design and Implementation Project

The course achieves a balance between establishing a theoretical foundation for DBMS and pragmatic applications of DBMS in a real-world environment. A significant semester-long project reinforces lectures and is designed by applying Project Based Learning (PBL) derived from Google's software engineering best practices. The course places particular emphasis on the logical design of relational database systems. In this project, you will apply concepts presented in class and obtain practical, hands-on experience. Students, in randomly-selected, 4-member teams, will design and implement small web-based database applications. A three-tiered architecture

The end result should be a functioning application that runs on the web and that uses your database to allow useful functionality.

All projects **MUST** be implemented with **MySQL** as the DBMS and all project artifacts including **programming code, meeting minutes, and report documents MUST be stored in Github (private)**. Each student must have a GIT & Github account and Github will manage and

Grading Information

Determination of Grades

The components of the final grade will be distributed as follows:

Class Participation: 15% (pop quizzes, pop questions, discussions, etc.)

HW Assignments: 20% (5 Individual HWs)

Database Team Project: 20% (Team with peer evaluations)

Midterm exam: 20%

Final exam: 25% (Accumulative/Comprehensive)

Digit number grades will be assigned according to the following policy:

97 ~ 100	----	A+
93 ~ 96	----	A
90 ~ 92	----	A-
87 ~ 89	----	B+
83 ~ 86	----	B
80 ~ 82	----	B-
77 ~ 79	----	C+
73 ~ 76	----	C
70 ~ 72	----	C-
67 ~ 69	----	D+
63 ~ 66	----	D
60 ~ 62	----	D-
0 ~ 59	----	F

Each assignment, project, and exam will be scored (given points) but not assigned a letter grade.

Final individual class letter grades will be assigned based on the class curve. Your final class grade can be adjusted up or down depending on your level and quality of class/project performance.

Class Protocol and Other Notes

Absences in attending the first two lectures will be instructor-dropped out from the class.

You will be called in most class sessions for pop questions and to discuss material contained in lectures by using Random Roster Checker.

When emailing me, please always start your email subject line with "CS157A: XXXXX" to get my attention. (XXXXX: Subject, for example: CS157A:HW1 Question)

Plagiarism/Cheating

will be reported to the Department and the University. (Please note that obtaining HW solutions from someone or giving/showing your HW solutions to someone is also treated as plagiarism/cheating.)

Attendance is crucial to doing well on pop quizzes, assignments and examinations.

Students are responsible for all materials distributed on Canvas and discussed in the class.

I reserve the right to make announcements in class that may not appear on the class website/Canvas.

Attendance: University policy F69-24 at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states that students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class.

