San José State University
Computer Science Department
CS157A, Introduction to Database Management Systems, Sec 2, Spring 2021

Course and Contact Information

Instructor:	Fain (Frank) Butt
Office Location:	Online
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Email:	Frank.Butt@sjsu.edu
Office Hours:	MW 9:00 PM - 10:15 PM (by appointment)
Class Days/Time:	MW 4:30 - 5:45 PM
Classroom:	Zoom
Prerequisites:	CS146 (with a grade of "C-" or better)

Course Format

All your HW assignments and programming projects must be able to compile and run before submission. Otherwise you will not earn many points if I can't verify your results. You are expected to spend ~5-10 hours a week on homework or programming assignment.

Faculty Web Page and MYSJSU Messaging

Course syllabus and the rest of the course information will be published via Canvas. You are responsible for regularly checking with the messaging system through MySJSU and Canvas to learn of any updates. Make sure you use your preferred email address in Canvas.

Course Description

This is an introductory course for database systems. We will cover relational database modeling, and database application programming. Topics include SQL, constraints, triggers, views, indexes, SQL/PL, and other DBMS system related area. We will use Db2 via Docker image installation for a set of homework and programming assignments to re-enforce concepts learned throughout the semester.

Course Learning Outcomes (CLO)

Upon successful completion of this course, students will be able to:

1. CLO 1 – Have the basic understanding of the relational database model.
2. CLO 2 – Understand the relational algebra operators and their SQL equivalent syntax.
3. CLO 3 – Understand the different programming interfaces such as Embedded SQL and JDBC.
4. CLO 4 – Understand DBMS programming features such as triggers, stored procedures, and SQL/PL.
5. CLO 5 – Understand how to write an embedded SQL program accessing the database.

6. CLO 6 – Learn how to write an JDBC program accessing the database.
7. CLO 7 – Learn how to design and implement database triggers and SQL/PL procedures.

Textbook

Database Systems - The Complete Book, 2nd Ed. (ISBN 0-13-187325-3)

Other Readings [Optional]

None

Other equipment / material requirements (include if applicable)

None

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at http://www.sjsu.edu/senate/docs/S12-3.pdf.

There will be one exam, several programming assignments, several homework and quizzes. All the exams and quizzes will be open notes only. There will be no laptops, or any personal digital devices allowed. I strongly suggest that you attend each class and take good notes during the semester. There will be ***NO*** make-up exams and quizzes.

All the labs, programming assignments, and related documentations must be handed in electronically. Programs that are handed in after the due date will not be accepted. Additional information about each project will be given in separate handouts. For your programming assignments, we will compile and grade your programs using Microsoft Visual C++ compiler 2012 or later on Windows and gcc on Mac as well as Java compiler for JDBC project. Your program needs to be able to compile and execute before you turned it in.

NOTE that 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. Attendance per se shall not be used as a criterion for grading."

Grading Policy

Final Exam	400 points	40%
HW & Quizzes	350 points	35%
Programs	250 points	25%
Total	1000 points	100%

We do not use the traditional grading scale for grade assignment. The final "letter" grade will be determined from a curve at the end of the semester.

Note that "All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades." See University Policy F13-1 at http://www.sjsu.edu/senate/docs/F13-1.pdf for more details.

Classroom Protocol

There will be some presentation PDFs given outside of the textbook. However there will be no textbook related lecture notes given out. It is your best interests to attend class and take good notes. You must turn off any cell phone ringer at the beginning of each class!

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/"

CS157A, Introduction to Database Management Systems, Sec 2 Spring 2021, Course Schedule (subject to change)

Event	Date	Class Time	Topics, Readings, Assignments, Deadlines
First Day	01/27/2021	Sec2: 4:30-5:45PM	Introduction and Overview
Week 1	02/01/2021	"	Chapter 1, 2
Week 2	02/08/2021	"	Chapter 2, 3
Week 3	02/15/2021	"	Chapter 3, 3
Week 4	02/22/2021	"	Chapter 5.1 - 5.2, Quiz #1; docker setup due
Week 5	03/01/2021	"	Review, Chapter 6 (SQL1)
Week 6	03/08/2021	"	Chapter 6, 7 (SQL2);
Week 7	03/15/2021	"	Chapter 8 (Views and Indexes); Triggers;
Week 8	03/22/2021	"	Chapter 9; Embedded SQL; CLI/ODBC;
Week 9	03/29/2021	"	Spring Break; no classes
Week 10	04/05/2021	"	Chapter 9; Stored Proc
Week 11	04/12/2021	"	Quiz #2 (Chapter 6,7,8); Prog1 assigned
Week 12	04/19/2021	"	Review; Chapter 9;
Week 13	04/26/2021	"	JDBC; Prog2 assigned
Week 14	05/03/2021	"	Chapter 10.1
Week 15	05/10/2021	"	Project review
Last Day	05/17/2021	"	Final Exam Review;
Final Exam	05/20/2021	Sec2: 2:45-5:00PM	Covers class content, textbook, handouts; Project related questions