San Jose State University
College of Science
Department of Computer Science
CS157B, Database Management Systems II, Section 1, Spring 2016

Course and Contact Information

- Instructor: Dr. Kim
- Office Location: MacQuarrie Hall 217 (MH217)
- Telephone: 408-924-5122
- E-mail: suneuy.kim@sjsu.edu (Preferred mode of contact is via email.)
    - When you send me an e-mail to ask a question, use [Q] in a subject line to get a reply from me within a reasonable response time. Here is an example subject line to ask a question.

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      [Q] lecture note
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- Office Hours: Tuesdays and Wednesdays 9:15 am - 10:15 am
- Class Days/Time/Classroom
    - Section 1 (Lecture): TR 1030-1145 MacQuarrie Hall 223 (MH223)
- Course Prerequisites: CS157A
- Course Web Site at http://www.cs.sjsu.edu/~kim/cs157b
  Announcements and course materials will appear here. It is updated frequently. You are strongly encouraged to check out this course web page regularly.

Catalog Description

Survey course. Object-oriented data model, definition language, query language. Object relational database systems. Database trends. Web database topics, namely, architectures, introduction to interface languages. Team projects.

Student Learning Outcomes

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

- Acquire in-depth knowledge about database application programming.
- Be able to design database through data analysis
- Understand current trends in databases.
- Learn critical database management skills expected for in new college hires.
- Learn how to work together in a small project team.

BS in Computer Science Program Outcomes Supported

These are the BSCS Program Outcomes supported by this course: These are the BSCS Program Outcomes supported by this course:

1. An ability to apply knowledge of computing and mathematics to solve problems
2. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
3. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
4. An ability to use current techniques, skills, and tools necessary for computing practice

Course Topics

This course covers modern database techniques which database designers, database application programmers and database administrators widely use. The list of covered topics is as follows:

Topics	Required Software Applications/Textbook Chapters
Object Relational Mapping (ORM)	Hibernate, MySQL, JDBC (MySQL Connector J), Eclipse, Java
Data Warehouse and OLAP	IBM Cognos Insight, MySQL
ReSTful Web Services	Apache Tomcat, MySQL, Eclipse EE, Java EE
DBMS - Oracle as an example	VM(VM player), CentOS, Oracle 11g
NoSQL (students' survey and presentation topic)	Seven Databases in Seven Weeks

Required Texts/Readings

There is no required text book. Online material and reference text books are posted and updated to the class web site.

Credit Hours Compliance Policy

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.

NOTE that University policy F69-24 at http://www.sjsu.edu/senate/docs/F69-24.pdf states that â€œStudents 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.â€

Assignments, Project, and Presentation

Assignments

Four assignments involving topics covered throughout the semester.

Project

Form a group of three for the team project involving database application development. Detailed project requirements will be posted on the course web page.

Presentation

Since this is a survey course, students will do survey and research on a database topic and present it. Your presentation team will work together and make a tutorial-style presentation. Detailed presentation requirements will be posted on the course web site.

Teamwork Policy

- Once a team is formed, it will last through out the semester. If you dissolve your team, a significant amount of penalty will be determined by the instructor and given to both parties.
- For the project, students are expected to report their own results as well as their collaborators. The task responsibility and contribution of every team member must be precisely documented in a report. During the project demo, team members are expected to be able to provide correct answers to questions that are specific to their tasks. Team members will be graded individually based on the report, their participation in class and peer evaluation.

Submission Policy

- Assignments and Projects: All submissions will be done through the submission link of the course web site and e-mail submissions will not be accepted for grading.
- Deadline is 11:59 pm on the given due date unless otherwise noted.
- Late submission
    - Any assignment or project turned in past the deadline will get a penalty: For each late day, a 20% of the maximum obtainable score of the work will be taken out of what you earned. (a late day is one 24 hour period beyond the due date). For example, suppose the maximum score of an assignment is 100 and you earned 80 points. If the submission is late by two days, the final score of the assignment would be 80 - 2 * 20 = 40.
    - Any submission turned in more than 48 hours past the deadline will result in a grade of zero for that assignment.

Software

- MySQL (MySQL server, Connector/J - JDBC Driver for MySQL , MySQL WorkBench)
- Oracle 11g
- Hibernate
- Apache Tomcat

- IBM Congnos Insight (student accounts are expected to be available later)
- VM player
- CentOS

Exams

There will be one midterm exam and one comprehensive final exam. The exams are scheduled as below. The date of midterm exam is subject to change with fair notice, but the final exam date is firm and cannot be changed.

- Midterm: Middle of March before Spring Recess
- Final Exam: Wednesday, May 18 0945-1200

Makeup Exam Policy

Absolutely no make-up exams will be offered under any circumstances. For those who couldn't take the exam or worked hard but had a bad day on the exam day ending up with a low score, I offer the following opportunity to possibly replace your worst midterm score with the final score. If your final exam (percentage) grade is higher than your worst midterm (percentage) grade, then I will replace the worst midterm grade with your final exam grade. For example, if you have a 60% on your worst midterm and you receive an 80% on the final exam, I will replace the 60% by 80% in the computation of your course grade.

Grading Policy

You will receive the final grade based on the weighted average score on your performance. The grading weights are as follows:

- Assignments: 22.5%
- Midterm: 22.5%
- Final Exam: 25%
- Project: 17%
- Presentation: 10%
- Participation: 3% (participating in presentation sessions and guest lectures as audience)

I first try scores of 90, 80, and 70 to cut off letter grades of A-, B-, and C-, respectively. If overall class performance is too low to use these cut offs, I set a cut off of C- to a lower score than the class total average but a higher score than 60 (this number may change), and divide the students' group above the cut off of C- into A+, A, A-, B+, B, B-, C+, C, C-. The rest of students will be given by a grade of D+, D, D-, F or WU depending on their class performance.

Note that â€œAll 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.â€ See University Policy F13-1 at http://www.sjsu.edu/senate/docs/F13-1.pdf for more details.

University Policies

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semesterâ€™s Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. The Advising Hub at http://www.sjsu.edu/advising/.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7, http://www.sjsu.edu/senate/docs/S12-7.pdf, requires students to obtain instructorâ€™s permission to record the course:

â€œCommon courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructorâ€™s permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.â€

â€œCourse material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.â€

Academic Integrity

Students should know that the Universityâ€™s Academic Integrity Policy is available at http://www.sa.sjsu.edu/download/judicial_affairs/Academic_Integrity_Policy_S07-2.pdf . Your own commitment to learning, as evidenced by your enrollment at San Jose State University and the Universityâ€™s integrity policy, require you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The website for Student Conduct and Ethical Development is available at http://www.sa.sjsu.edu/judicial_affairs/index.html. Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another personâ€™s ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/aec to establish a record of their disability.

Accommodation to Students' Religious Holidays

San JosÃ© State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. See University Policy S14-7 at http://www.sjsu.edu/senate/docs/S14-7.pdf.

CS157B Database Management Systems II: Spring 2016 Semester Schedule

Subject to change with fair notice at least one class period in advance Students will be notified in class and/or via course web site should any changes occur

Weeks	Dates	Topics	Assignments
1	1/28	CS157B Orientation	
1	2/2	Hibernate ORM	
2	2/4		
2	2/9		
3	2/11		
3	2/16		
4	2/18	Guest Lecture	Hibernate
4	2/23	Presentation 1	
5	2/25	Presentation 2	
5	3/1	Data Warehouse and OLAP	
6	3/3		
6	3/8		
7	3/10		
7	3/15		OLAP
8	3/17	Presentation 3	
8	3/22	Presentation 4	
9	3/24	MIDTERM	
	3/29	Spring Recess	
	3/31	Cesar Chavez Day	Project is out.
9	4/5	RESTFul Web Service	
10	4/7		

10	4/12		
11	4/14		
11	4/19		
12	4/21	Presentation 5	RESTFul Web Service
12	4/26	Presentation 6	
13	4/28	Oracle DBMS	
13	5/3		
14	5/5		
	5/10		
14	5/12	Last Day of Instruction	Oracle Lab
Final Exam	Wednesday, May 18 0945-1200		