

**San José State University**  
**College of Science / Department of Computer Science**  
**NoSQL Database Systems, CS157C-03, Spring 2021**

**Course and Contact Information (Synchronous Online Course)**

<b>Instructor:</b>	Dr. Mike Wu
<b>Office Location:</b>	MacQuarrie Hall 211(Online)
<b>Email:</b>	Ching-seh.Wu@sjsu.edu
<b>Office Hours:</b>	Tuesday 6pm-7pm & Friday 2pm ó 3pm <b>(Please drop me an email with time info and subject.)</b>
<b>Class Days/Time:</b>	Tuesday and Thursday 4:30pm ~ 5:45pm
<b>Classroom:</b>	Online
<b>Prerequisites:</b>	CS 157A (with a grade of "C-" or better); Computer Science

**Course Motivation**

NoSQL (Non-SQL or Not-only-SQL) databases are increasing in popularity due to the growth of data as they can store non-relational data on a super large scale, and they can solve problems regular databases can't handle. They are widely used in Big Data operations. Their main advantage is the ability to handle large data sets effectively as well as scalability and flexibility issues for modern acationability issues-



- < Using NoSQL technologies to extract and manipulate web-based data
- < Non-relational, distributed database design and creation using NoSQL web-based databases Write applications that use visualization and graphing to display data
- < Use Big Data technologies such as Hadoop and MapReduce

HW assignments and project may involve installation/uninstallation of open source software.

## Reading Assignments

Students will read assigned supplemental handouts.

## Other Outside Assignments

Students will be required to watch video clips related to the lecture topics.

## Interactive Pop Questions

Unannounced interactive pop questions may be given anytime during class. The purpose of pop questions to encourage you to learn, study and review the concepts and materials presented/discussed in the lecture. These will generally be problems covered in the previous lecture. You will be called to answer pop questions anytime during the online lecture. If your name is called and no response, 0 points will be recorded.

## 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. Problem solving will require NoSQL programming 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 the 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.

## NoSQL Database Design, Implementation, and Deployment Project

The course achieves a balance between establishing a theoretical foundation and pragmatic applications of NoSQL in a real-world environment. A significant semester-long project reinforces lectures and is designed by applying Project Based Learning (PBL) derived from I qqi r̄ḡu' uq̄hy ctg" gpi k̄pggt̄k̄pi "d̄guv̄r̄ tcēv̄legu. In this team project, you will apply concepts presented in class and obtain practical, hands-on experience. A 3-member team will design, configure, implement, and deploy a small NoSQL database application. Team may choose any NoSQL database for the application that are appropriate in size and complexity. Appropriateness will be determined by the instructor. Students are responsible to set up and deploy required software products. The instructor may not involve with any troubleshooting.

By submitting/presenting a project, team members attest that they all participated in the conceptualization and accomplishment of the project. It is incumbent on team members to assure that **each team member MUST contribute in writing program code and documents** \*I kj wd'y k̄nl̄j̄ qy "ḡcej "b̄ go d̄gt̄u' ēq̄p̄t̄k̄d̄w̄k̄p̄"v̄" ḡcej "h̄k̄g" of code and document), p̄q"q̄p̄g"q̄p"v̄j̄ g"v̄gco "ō̄h̄t̄ḡg"t̄k̄f̄ guō"v̄j̄ tq̄wī j̄ "v̄j̄ g"r̄ t̄q̄l̄gēv̄0"K̄i'r̄ tq̄d̄r̄go u'ct̄k̄ug" f̄ w̄t̄k̄pi "v̄j̄ g"v̄gt̄o . ." upon consultation with team members, the instructor will remove non-participating team members from their teams. Individuals removed from teams will not receive points on the team project.



Students are prohibited from recording class activities (including class lectures, office hours, advising sessions, etc.), distributing class recordings, or posting class recordings. Materials created by the instructor for the course (syllabi, lectures and lecture notes, presentations, etc.) are copyrighted by the instructor. This university policy (S12-7) is in place to protect the privacy of students in the course, as well as to maintain academic integrity through reducing the instances of cheating. **Students who record, distribute, or post these materials will be referred to the Student Conduct and Ethical Development office.** Unauthorized recording may violate university and state law. It is the responsibility of students that require special accommodations or assistive technology due to a disability to notify the instructor.

- < You may 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 "CS157C: XXXXX" to get my attention. (for example: CS157C:HW1 Question)**
- < **Plagiarism/Cheating will not be tolerable: 'F' will be given to your FINAL COURSE GRADE and will be reported to the Department and the University. The F grade will not be automatically turned to NC grade. (Obtaining HW solutions from someone or giving/showing your HW solutions to someone is also treated as plagiarism/cheating.)**
- < **Participation is crucial to perform well on pop questions, assignments and examinations.** Regular attendance is your responsibility. If you choose to miss classes, it is also your responsibility to make up all work missed.
- < **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.**

## University Policies

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.

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 instructor's permission to record the course: Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You **must** obtain the instructor'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. Course material cannot be shared publicly without his/her approval. **You are not allowed to publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.**

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

÷



