

Select an appropriate NoSQL database for the use case at hand and design applications to efficiently work with the chosen database

Required Texts/Readings

Textbook: Not Required.

References

NoSQL for Mere Mortals by Sullivan. Addison-Wesley Professional (SJSU library on-line access)
SQL & NoSQL Databases: Models, Languages, Consistency Options and Architectures for Big Data Management by Meier & Kaufmann (SJSU library on-line access)
NoSQL Distilled: A Brief Guide to the Emerging World of Polyglot Persistence by Pramod J. Sadalage and Martin Fowler (SJSU library on-line access)
MongoDB: The Definitive Guide: Powerful and Scalable Data Storage, 3rd Edition by Kristina Chodorow, December 2019 (SJSU library on-line access)
The Definitive Guide to MongoDB: A Complete Guide to Dealing with Big Data using MongoDB, 3rd Edition by David Hows, Peter Membrey, Eelco Plugge and Tim Hawkins. (SJSU library on-line access)
Mastering Apache Cassandra 3.x, 3rd Edition by Nishant Neeraj, Tejaswi Malepati and Aaron Plötz. (SJSU library on-line access)
Cassandra: The Definitive Guide: Distributed Data at Web Scale by Jeff Carpenter and Eben Hewitt (SJSU library

It's student's responsibility to pay attention to my lectures for clearly explanation of the requirements for each homework assignment in class before they are posted on Canvas.

Students who ignore lectures will not perform well on homework assignments. **All assignments submitted are expected**

Grading Information

Determination of Grades

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

Class Participation: 15% (Interactive pop questions, pop quizzes, discussions, hands-on exercises, etc.)

Written & Programming Assignments: 25% (5 Individual HWs)

Project: 20% (Team with peer evaluations)

Midterm Exam: 20%

Final exam: 20% (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-

Week	Date	Topics, Readings, Assignments, Deadlines
		(Example NoSQL Databases: Cassandra, Bigtable, MapR, and Others) HW2 (Out)
7	3/4	Problem Solving and Hands-on Session (Cassandra)
7	3/6	Topic V: Key-Value NoSQL Databases (Major keys, Minor keys, Values) Project Proposal & Requirements Document Due
8	3/11	Topic V: Key-Value NoSQL Databases (Continued) (Example NoSQL Databases: Oracle NoSQL Database, Redis, and Others) HW2 (Due & Demo)
8	3/13	Topic V: Key-Value NoSQL Databases (Continued) (Example NoSQL Databases: Oracle NoSQL Database, Redis, and Others) Volunteer Paper Presentation (Dyamo: Amazon's Highly Available Key-value Store) HW3 (Out)
9	3/18	Topic V: Key-Value NoSQL Databases (Continued) Problem Solving and Hands-on Session (Redis & Jedis) (Project Data Model & NoSQL DB Design Document)
9	3/20	Topic V: Key-Value NoSQL Databases (Continued) (Example NoSQL Databases: Oracle NoSQL Database, Redis, and Others)
10	3/25	First Project Code Review (Revision Code due in Github) HW3 (Due & Demo) Review for Midterm
10	3/27	Midterm Exam
	4/1	Spring Recess 3/31 ~ 4/4 (No Class)
	4/3	Spring Recess 3/31 ~ 4/4 (No Class)
11	4/8	Midterm Solutions Topic VI: Graph NoSQL Databases (Building Graph Model, Edges, Nodes, Relationships)
11	4/10	Topic VI: Graph NoSQL Databases (Continued) (Example NoSQL Databases: Neo4J, InfoGrid, GraphBase and Others) Volunteer Paper presentation (TAO: Facebook's Distributed Data Store for the Social Graph) Second Project Code Review (Revision code due in Github) HW4 (Out)
12	4/15	Problem Solving and Hands-on Session (Neo4J)
12	4/17	Topic VII: Document NoSQL Databases (Attributes, Metadata, Formats, XML, JSON and BSON) HW4 (Due & Demo)
13	4/22	Topic VII: Document NoSQL Databases (Continued) (Example NoSQL Databases: Elasticsearch, Mongo DB, Couch DB and Others) HW5 (Out)
13	4/24	Problem Solving and Hands-on Session (MongoDB) Third Project Code Review (Revision code due in Github)
14	4/29	Topic VIII: Cloud Computing with NoSQL Database (Big Data, Remote Searches, Hadoop, MapReduce, rest, AWS)
14	5/1	Project Presentation Demo Preparation HW5 (Due & Demo)
15	5/6	Final Project Presentation & Demo
15	5/8	Final Project Presentation & Demo Final Exam Review

Week	Date	Topics, Readings, Assignments, Deadlines
Final Exam	5/15 (Thursday)	Thursday 5:30pm – 7:30pm (Final Project Report Due, Project Peer Evaluation Due) Final Project Code Review (final revision code due in Github)