Technology Requirements

To work on homework, Lab, and term project, you must have access to recent 64-bit x86 computers running Windows, macOS, or Linux. The CPU must have hardware assisted virtualization (VT-x/AMD-V) that is enabled in BIOS and the computer must have 6+ GB RAM. Apple Silicon chips (M1, etc.) are not supported. SJSU has a free equipment loan program available for students.
Familiarity with Java and Eclipse IDE
For any online exams (Midterm Exam, Final Exam, etc.), you must have a computer and a separate Zoom-device running Zoom. The Zoom-device must have a camera and can be a smart phone, tablet, etc. Your computer must have a webcam and must run either Windows or macOS; Linux and Virtual Machine are not supported. SJSU has a free equipment loan program available for students.
Students are responsible for ensuring that they have access to reliable Wi-Fi during tests. See Learn Anywhere website for current Wi-Fi options on campus.
We will use iClicker Cloud to take attendance and conduct polls in class. In order to participate in these activities, you must bring a device (laptop, tablet, or smart phone) to class, and run the iClicker Student App for free or use the web browser on this device. Follow the instructions to setup an iClicker account (or use your existing one if you already have one), and add this course to your account. Visit iClicker at https://www.iclicker.com for more information.

Faculty Web Page and Messaging

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on Canvas Leaning Management System course login website at https://sjsu.instructure.com. Each submission of any assignment (hom self-contained You are responsible for regularly (i.e. every couple of days) checking with the messaging system (email, announcements, discussions) through Canvas and through MySJSU on Spartan App Portal at https://one.sjsu.edu to learn of any updates. Students are encouraged to use the Canvas discussion boards for collaboration.

Canvas information at https://www.sjsu.edu/ecampus/software-tools/teaching-tools/canvas/
Canvas student resources at https://www.sjsu.edu/ecampus/software-tools/teaching-tools/canvas/student-resources/
If you are having problems logging on, please submit a ticket at https://isupport.sjsu.edu
_____ at https://guides.instructure.com/m/4212/l/54359-how-do-i-view-instructor-comments, and view annotated comment at https://guides.instructure.com/m/4212/l/352349-how-do-i-view-annotation-feedback-comments-from-my-instructor-directly-in-my-assignment-submission

Course Goals

To learn the cloud definition, service models (IaaS, PaaS, SaaS), and deployment models

To learn cloud enabling technologies: web, web service (SOAP, REST), virtualization, and data center

To learn cloud infrastructure mechanisms, specialized mechanisms, and management mechanisms

To learn fundamental cloud architectures, and advanced cloud architectures

To learn and practice cloud programming environments, including VMware ESXi, Google App Engine, Amazon AWS, Microso anism

Course Learning Outcomes (CLO)

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

Understand the above covered topics through completion of homework, quizzes, and examinations.

Successfully complete labs and projects.

Work in a team to complete a term project, including independent research, oral presentation, and programming on one latest advancement in cloud computing.

Required Texts/Readings

Textbook

T. Erl, R. Puttini, and Z. Mahmood, *Cloud Computing: Concept, Technology & Architecture*. Pearson, 2013. ISBN: 9780133387520. eBook ISBN: 9780133387513.

- https://www.pearson.com/us/higher-education/program/Erl-Cloud-Computing-Concepts-Technology-Architecture/PGM239182.html
- https://www.vitalsource.com/products/cloud-computing-thomas-erl-v9780133387513
- https://patterns.arcitura.com/cloud-computing-patterns

Dan C. Marinescu, *Cloud Computing: Theory and Practice, 3/E*. Elsevier Science & Technology, 2022. ISBN: 9780323852777. eBook ISBN: 9780323910477.

- https://textbooks.elsevier.com/web/product_details.aspx?isbn=9780323852777
- https://www.vitalsource.com/products/cloud-computing-dan-c-marinescu-v9780323910477

Note: 2/E can be used though chapter orders are different.

Other Readings

Thomas Erl, Robert Cope, and Amin Naserpour, *Cloud Computing Design Patterns, 1/E*. Prentice Hall 2015. ISBN: 9780133858563. eBook ISBN: 9780133858631.

- https://www.pearson.com/us/higher-education/product/Erl-Cloud-Computing-Design-Patterns/9780133858624.html
- https://www.vitalsource.com/products/cloud-computing-design-patterns-thomas-erl-robert-cope-amin-v9780133858631

Eric Redmond, and Jim Wilson, *Seven Databases in Seven Weeks: A Guide to Modern Databases and the NoSQL Movement, 2/E*. Pragmatic Bookshelf, 2018. ISBN: 9781680502534. eBook ISBN: 9781680505979.

- https://pragprog.com/titles/pwrdata/seven-databases-in-seven-weeks-second-edition/
- https://www.vitalsource.com/products/seven-databases-in-seven-weeks-luc-perkins-v9781680505979

Martin Kleppmann, *Designing Data-Intensive Applications, 1/E*. , 2017. ISBN: 9781449373320. eBook ISBN: 9781491903100.

- Online access via SJSU library
- https://www.oreilly.com/library/view/designing-data-intensive-applications/9781491903063
- https://www.vitalsource.com/products/designing-data-intensive-applications-martin-kleppmann-v9781491903100

D. Sitaram and G. Manjunath, *Moving to The Cloud: Developing Apps in the New World of Cloud Computing*. Syngress, 2011. ISBN: 9781597497251. eBook ISBN: 9781597497268.

- Online access via SJSU library

- https://dl.acm.org/doi/book/10.5555/2086754

B. Sosinsky, *Cloud Computing Bible*. Wiley, 2011. ISBN: 9780470903568. eBook ISBN: 9781118023990.

- Online access via SJSU library
- https://www.wiley.com/en-us/Cloud+Computing+Bible-p-9780470903568

J. Rosenberg and A. Mateos, *The Cloud at Your Service*, Manning, 2010. ISBN: 9781935182528.

- Online access via SJSU library
- https://www.manning.com/books/the-cloud-at-your-service

Ad

Recording: You are not allowed to record any class sessions (audio and video). The instructor records lecture/presentation sessions and share them with you through Canvas. You are permitted to only view recordings but not download them. These recordings will be deleted at the end of the semester.

Online Exam: Exams will be proctored through Respondus Monitor, LockDown Browser, and recorded Zoom sessions. If cheating is suspected the proctored videos may be used for further inspection and may become part of ecord. Note that the proctoring software does not determine whether academic misconduct occurred, but does determine whether something irregular occurred that may require further investigation. Students are encouraged to contact the instructor if unexpected interruptions (from a parent or roommate, for example) occur during an exam.

Academic Integrity and Collaboration Policy

property and you are **not** allowed to share them in any form with any one or any web site (coursehero.com, chegg.com, etc.) in this semester or any future semester.

The work that you turn in must be original - Every single byte must come from you. You are not allowed to look at anyone else's solution in any form (from other students, web sites, etc.). You may discuss assignments with instructor, grader, and your classmates, provided such discussion is at the high level only, and you still must write your solution yourself.

You must take reasonable steps to protect your work (source code, solution, etc.). You must **not** share your work in any form with any one or any web sites (github.com, sourceforge.net, coursehero.com, etc.) in this semester or any future semester. Github repositories are public by default, do not put your code there unless you make the repository private. Any projects on sourceforge.net must be set to private.

Each assignment submission including programming code **will** be checked for similarity.

Any cheating incident will result in the reporting of such incident to the university office of Student Conduct & Ethical Development, will result in academic sanctions (including failing the course), as well as possible administrative sanctions, in accordance to the University Academic Integrity Policy at http://www.sjsu.edu/senate/docs/F15-7.pdf.

University Policies

Per University Policy S16-9 *(http://www.sjsu.edu/senate/docs/S16-9.pdf)*, relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on Syllabus Information web page (https://www.sjsu.edu/curriculum/courses/syllabus-info.php). Make sure to visit this page to review and be aware of these university policies and resources.

The schedule is tentative and subject to change with fair notice. *The final exam date is firm and cannot be changed*. *The students are obliged to consult the most updated and detailed version of the reading T0 612 792 reW*nBT/F3 15.0.0 Tm0PalET0.0sy 1*

Week	Date	Topics	References	HW & Projects
9	10/18#	**MIDTERM EXAM (close book, close notes, no calculator). Bring student ID**	up to AWS, exclude papers	
9	10/20	LAB Google App Engine*	Notes	10/21 Project 2 proposal due
10	10/25	LAB Google App Engine*	Notes	
10	10/27	Cloud Architecture 1	Erl 11	(Project presentation length & order)
11	11/1			