

**San Jose State University**  
**Department of Computer Science**  
**CS 258-01 Computer Communication Systems Fall 2016**

**Course and Contact Information**

<b>Instructor:</b>	Melody Moh
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<b>Office Hours:</b>	Mon 1100 to 1150 and Wed 1450 to 1400
<b>Class Days/Time:</b>	MW 1200 to 1315
<b>Classroom:</b>	MQH 422
<b>Prerequisites:</b>	CS 158A or instructor consent

**Course Format**                      Lecture

**Faculty Web Page and MYSJSU Messaging (Optional)**

*Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on my faculty web page <http://www.cs.sjsu.edu/~melody/index.html> and/or on [Canvas Learning Management System course login website](#) at <http://sjsu.instructure.com>. You are responsible for regularly checking with the email system through [MySJSU](#) at <http://my.sjsu.edu> to learn of any updates.*

**Course Description**

Design, analysis and survey of the latest advancements in network and Internet technologies, such as supporting TCP/IP over various network media, software-defined networks, networks supporting cloud computing, network security, peer-to-peer and overlay networks, and quality of services. This semester, topics include the following (time permits):

- Network trends
- Network virtualization
- Software-defined networking (SDN) and OpenFlow
- Internet of Things
- Data center and storage networks
- Cloud computing and networking
- Big data analytics and networking
- Social networks and networking
- Security and privacy issues

## Course Learning Outcomes (CLO)

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

1. **CLO 1** - Understand the above covered topics through completion of homework, quizzes, and examinations.
2. **CLO 2** - Successfully complete programming projects on advanced networking.
3. **CLO 3** - Work in a (1 or 2 people) team to complete group projects, including independent research, oral presentation, and programming on one latest advancement in mobile networking.

## Required Texts/Readings

### Major References

- Paul Goransson and Chuck Black, *Software Defined Networks: A Comprehensive Approach, 1<sup>st</sup> edition*, 2014, Morgan Kaufmann Publishers, Inc., San Francisco. ISBN-13: 978-0124166752, ISBN-10: 012416675X
- (CS 158A textbook) L. Peterson and B. Davie, *Computer Networks: A Systems Approach, 5<sup>th</sup> Edition*, Morgan Kaufmann Publishers Inc., San Francisco, CA, 2007, ISBN 0123850592
  - e-book version should be available from the SJSU Library.
  - [Slides and other resources](http://booksite.elsevier.com/9780123850591/index.php) available at: <http://booksite.elsevier.com/9780123850591/index.php>
- Other references for specific topics/projects will be given along with topic/project assignments.

## Course Requirements and Assignments

*Homework is due typewritten (include source code, but not executable files) by class starting time on the due date. Each assigned problem requires a solution and an explanation (or work) detailing how you arrived at your solution. Cite any outside sources used to solve a problem. When grading an assignment, I may ask for additional information. A subset of the assigned problems will typically be graded.*

## ASSIGNMENTS

Refer the course website for latest information of assignments.

- **HW:** Weekly homework assignments and several in-class quizzes
- **PROJ:** Several hands-on labs, individual and/or group research and programming projects will span the entire semester
- **Oral Presentation:** Included in projects (PROJ)

## EXAMS

One mid-term exam (**Mid**) scheduled approximately at the end of 8th week, and a final exam (**FIN**).

## Schedule

For continual updates of course schedule, please check the [course web page](http://www.cs.sjsu.edu/~melody/CS258_16F.html) at [http://www.cs.sjsu.edu/~melody/CS258\\_16F.html](http://www.cs.sjsu.edu/~melody/CS258_16F.html)

CS 258 final exam is scheduled on Friday, December 16, at 9:45am.

[Fall 2016 Final Exam Schedule](http://info.sjsu.edu/static/catalog/final-exam-schedule-fall.html) can be found at <http://info.sjsu.edu/static/catalog/final-exam-schedule-fall.html>

### Grading Policy

- *I will determine letter grades for the course, including +/- grades based on*

<b>Percentage</b>	<b>Grade</b>
92 and above	A
90 - 91	A-
88 - 89	B+
82 - 87	B
80 - 81	B-
78 - 79	C+
72 - 77	C
70 - 71	C-
60 - 69	D
59 and below	F

- *Percentage weight [or point value] assigned to various class assignments*
  - HW - 20%, PROJ- 40%, Mid - 20%, FIN - 20%.
- *No make-up exams will be given and no late assignment will be accepted.*

NOTE that [University policy F69-24](http://www.sjsu.edu/senate/docs/F69-24.pdf) at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states the following:

- *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.*

### Classroom Protocol and Other Notes

- **Always start your email subject with "CS258" to get my attention.**
- The pre-requisite to this course (CS 158A or instructor consent) will be monitored.
- **Cheating** will not be tolerable; a ZERO will be given to any cheated assignment/exam, and will be reported to the Department and the University.
- **Wireless laptop** is required. Your laptop must remain closed (preferably in your backpack and not on your desk) until you are informed that it is needed.
- To encourage participation from students, **no** recording is allowed.
- Students must be respectful of the instructor and other students. For example: turn off/silence **cell phones and other mobile devices**.
- Attendance is crucial to doing well on assignments and examinations.
- Students are responsible for all materials distributed and discussed in the class.
- Office hours are on a 90% basis; they may be rescheduled or canceled due to conflicting department/university or other professional meetings.

### University Policies (Required)

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](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

## CS 258, Fall 2016, Course Schedule

*The schedule is subject to change with fair notice; the notice will be made available in class.*

### Course Schedule

<b>Weeks</b>	<b>Topics</b>
1	Introduction
2	Trends of computer networks and applications
3	Software Defined Networking (SDN)
4	OpenFlow
5	Network virtualization
6	Network virtualization
7	Internet of Things
8	Internet of Things protocols and security
9	Datacenter and storage Networking
10	Cloud computing and networking
11	Cloud computing and networking
12	Big data analytics and networking
13	Social networks and networking
14	Security and privacy issues
15	Applications
16	Review
Final Exam	Friday, December 16, at 9:45am