SJSU SAN JOSÉ STATE UNIVERSITY

College of Science · Computer Science

Computer Networks Section 02

CS 158A

Spring 2024 3 Unit(s) 01/24/2024 to 05/13/2024 Modified 01/21/2024

Contact Information

Lecturer: Mr. Narayan Balasubramanian

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Office: TBD
Phone: TBD

Office Hours

By appointment only

Course Information

Lecture

Mon, Wed 12-1:15pm
Clark Building, Room # 238

Course Description and Requisites

Introduction to computer networks, including network layered architectures, local and wide area networks, mobile wireless networks, Internet TCP/IP protocol suite, network resource management, network programming, network performance, network security, network applications.

Prerequisite(s): CS 146 and CS 47 (with a grade of "C-" or better). Computer Science or Software Engineering majors only, or instructor consent.

Letter Graded

Classroom Protocols

You are expected to attend classes. If you cannot attend, it is your responsibility to get a copy of the lecture notes and class announcements from a reliable classmate. The instructor reserves the right to ignore frivolous or inappropriate e-mail inquiries. Students are expected to participate actively to provide improvement to presentations by other classmates.

Program Information

Diversity Statement - At SJSU, it is important to create a safe learning environment where we can explore, learn, and grow together. We strive to build a diverse, equitable, inclusive culture that values, encourages, and supports students from all backgrounds and experiences.

Course Learning Outcomes (CLOs)

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

1. Become familiar with network layered architecture.
2. Have the ability to understand the client/server model and the structures and design of computer networks.
3. Understand the concepts of reliable data transfer and how TCP implements these concepts.
4. Know the principles of congestion control, of routing, etc.
5. Ability to know network programming and how to implement client/server programs.
6. Ability to configure a basic computer network.
7. Become familiar with the latest developments in networking, namely, Internet of Things (IoT), 5G Wireless Networking

Course Materials

1. Computer Networking: A Top-Down Approach, 8th edition, by James Kurose and Keith Ross. ISBN-10: 0-13-668155-7 | ISBN-13: 978-0-13-668155-7 | ©2021 Pearson. This is the main text book that we will use in the class.

2. Introduction to Computer Networks by Peter L. Dordal http://intronetworks.cs.luc.edu/ . This is a free online book. It covers a lot of topics that we will be talking about in the class.

Grading Information

Criteria

Type	Weight	Topic	Notes
Homework	30%		
Midterm	30%		

Type	Weight	Topic	Notes
Final Exam	40%		

Breakdown

A plus = 97% or higher

A = 93% up to 97%

A minus = 90% to 93%

B plus = 87% to 90%

B = 83% to 87%

B minus = 80% to 83%

C plus = 77% to 80%

C = 73% to 77%

C minus = 70% to 73%

D plus = 67% to 70%

D = 63% to 67%

D minus = 60% to 63%

F = 0% to 60%

Boundary cases count as the higher of the two grades.

University Policies

Per University Policy S16-9 (PDF) (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 the Syllabus Information (https://www.sjsu.edu/curriculum/courses/syllabus-info.php) web page. Make sure to visit this page to review and be aware of these university policies and resources.

Course Schedule

When	Topic	Notes

When	Topic	Notes
Week # 2	How Internet Works - I	
Week #2	How Internet Works - II	
Week #3	How Internet Works - III	
Week #3	Application Layer - HTTP/DNS - I	
Week #4	Application Layer - HTTP/DNS - II	
Week #4	Application Layer - HTTP/DNS - III	
Week #5	Transport Layer - TCP/UDP - I	
Week #5	Transport Layer - TCP/UDP - II	
Week #6	Transport Layer - TCP/UDP - III	
Week #6	Network Layer - IPv4/IPv6 - I	
Week #7	Network Layer - IPv4/IPv6 - II	
Week #7	Network Layer - IPv4/IPv6 - III	
Week #8	Network Control Plane - BGP/OSPF/SDN/SNMP/ICMP - I	
Week #8	Network Control Plane - BGP/OSPF/SDN/SNMP/ICMP - II	
Week #9	Network Control Plane - BGP/OSPF/SDN/SNMP/ICMP - III	
Week #9	Midterm Review	
Week #10	Midterm	
Week #10	Data Link Layer - I	
Week #11	Data Link Layer - II	
Week #11	Data Link Layer - III	
Week #12	WiFi, Wireless Networks - I	
Week #12	WiFi, Wireless Networks - II	
Week #13	WiFi, Wireless Networks - III	
Week #13	Network Security - I	

When	Topic	Notes
Week #14	Network Security - II	
Week #14	Network Security - III	
Week #15	Review - I	
Week #15	Review - II	
May 17, 2024 9:45AM-12 Noon	Final Exam	