SJSU SAN JOSÉ STATE UNIVERSITY

College of Science · Computer Science

Computer Network Management Section 80

CS 158B

Spring 2023   3 Unit(s)   01/25/2023 to 05/15/2023   Modified 03/06/2023

👤 Contact Information

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🖥 Course Description and Requisites

Principles and technologies of network management: reference models, functions (fault, configuration, performance, security and accounting management), management information, communication protocols, integration, and assessment. Network security and cyber defense: cryptography, key distribution, authentication protocols, network attacks, access control, and example systems.

Prerequisite(s): CS 158A or CMPE 148 (with a grade of "C-" or better). Computer Science or Software Engineering majors only, or instructor consent.

Letter Graded

☰ 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. Understand and use fundamental network management protocols.
2. Understand the design and functionality of the SNMP protocol and use
3. Understand the design and functionality of CLI interfaces for network management
4. Understand the design and functionality of syslog, snmp traps
5. Understand the goals and challenges of autonomic management
6. Understand the goals and challenges of distributed management
7. Understand Internet of Things technology.
8. Familiar and Hands On with industry Network Management tools such as WhatsUp Gold, MG-Soft and Cisco IoT technologies

📖 Course Materials

Network Management: Concepts and Practice, A Hands-On Approach

Author: J. Richard Burke
ISBN: 978-0130329509

Other Tools

Cisco Packet Tracer

Network Simulator: https://gns3.com

Traffic Analyze tool: www.wireshark.org

Network Management Tool, PRTG: https://www.paessler.com/prtg

✔ Grading Information

Midterm Exam (2): 30%

Final Project: 40%

Final Exam: 30%

Percentage	Grade
>97	A+
92-96	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

🏛 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

📅 Course Schedule

Week#	Dates	Description
1	1/25 W	Course Introduction
2	1/30 M	Review IP Addressing
2	2/1 W	Review OSI Layer
3	2/6 M	Introduction to RIP protocol
3	2/8 W	Introduction to RIP protocol
4	2/13 M	Introduction to OSPF protocol
4	2/15 W	Introduction to OSPF protocol
5	2/20 M	Introduction to SNMP Protocol
5	2/22 W	Introduction to SNMP Protocol
6	2/27 M	Practicing building and manage a network
6	3/1 W	Review Exam#1
7	3/6 M	Exam# 1
7	3/8 W	Introduction to GNS3 tool
8	3/13 M	Introduction to GNS3 tool continue
8	3/15 W	Introduction to Syslog
9	3/20 M	Practicing building and manage a network
9	3/22 W	Practicing building and manage a network
10	3/27 M	Spring Recess - no classes
10	3/29 W	Spring Recess - no classes
11	4/3 M	Review Exam#2
11	4/5 W	Exam# 2
12	4/10 M	Overview about current industry NMS
12	4/12 W	Overview about current industry NMS
13	4/17 M	Go over Final Project Demo Expectation
13	4/19 W	Final Project Demo
14	4/24 M	Final Project Demo
14	4/26 W	Final Project Demo
15	5/1 M	Final Project Demo

15	5/3 W	Final Project Due
16	5/8 M	Complete Grading Final Project
16	5/11 W	Review Final Part 1
17	5/15 M	Review Final Part 2
18	5/22 M	Final 7:45PM - 10PM