

Computer Network Management Section 80

CS 158B

Fall 2023 3 Unit(s) 08/21/2023 to 12/06/2023 Modified 08/21/2023

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
>98	A+
92-97	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 \(PDF\)](http://www.sjsu.edu/senate/docs/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

Week#	Dates	Description
1	8/21/2023	Course Introduction
2	8/28/2023	Review IP Addressing & OSI
3	9/4/2023	Review routing protocols
4	9/11/2023	RIP & OSPF protocols
5	9/18/2023	RIP & OSPF protocols
6	9/25/2023	Exam 1
7	10/2/2023	Introduction to SNMP protocol
8	10/9/2023	Introduction to GNS3 tool
9	10/16/2023	Introduction to SNMP Protocol
10	10/23/2023	Practicing building and manage a network Exam 2
11	10/30/2023	Practicing building and manage a network
12	11/6/2023	Project Demo
13	11/13/2023	Project Demo
14	11/20/2023	Project Demo and Thanks Giving week
15	11/27/2023	Review Week
16	12/4/2023	Final week