



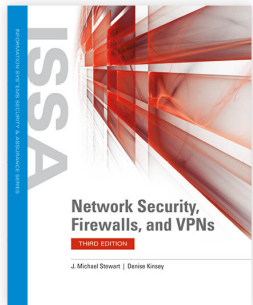

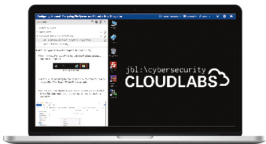
California State University
DOMINGUEZ HILLS

[WWW.CSUDH.EDU](http://www.csudh.edu)



College of Natural and Behavioral Sciences
Department of Computer Science
<http://csc.csudh.edu>

COURSE TITLE:	Network Security & Hacking Prevention
COURSE NUMBER:	CTC 452
INSTRUCTOR NAME:	MEHRDAD S. SHARBAF, PH.D. MSHARBAF@CSUDH.EDU , OFFICE: NSM A-139 PHONE: 310-243-3398, OFFICE HOURS: WED. 5:00PM-7:00PM
DATE:	SPRING SEMESTER, 2023
COURSE LENGTH:	<u>15</u> WEEKS
WEB COMPANION	<u>N/A</u>
BLACKBOARD WEB SITE	HTTP://toro.csudh.edu
COURSE SCHEDULE:	Session 1- Saturdays 9:00am-11:45am On Campus
UNIT OF ACADEMIC MEASUREMENT (SELECT ONE):	<input type="checkbox"/> QUARTER SYSTEM <input checked="" type="checkbox"/> SEMESTER SYSTEM
PREREQUISITES:	CSC 428 Operating System Security or consent of instructor. Students should also be familiar with computer networking, specifically the TCP and IP protocols, but this material will be reviewed as part of this course.
COURSE DESCRIPTION:	This course takes an in depth look at network defense concepts and techniques. It examines theoretical concepts that make the world of networking unique. This course also adopts a practical hands-on approach when examining network defense techniques and different strategies.

	TEXTBOOKS AND MATERIALS	(CHECK ONE)	
		REQUIRED	OPTIONAL (SUPPLEMENTAL)
TEXTBOOK (S)	<p align="center">NETWORK SECURITY, FIREWALLS, AND VPNS</p> <p align="center">THIRD EDITION</p> <p align="center">J. Michael Stewart; Denise Kinsey, PhD, CISSP, PMP</p> <p align="center">Published: Jones & Bartlett</p> <hr/>    <p>eBook Bundle ISBN: 9781284184655 © 2022 Lab Access Code: F98763 Here is the Code that you will use upon checkout: CSUDHCYBR 20% discount https://www.jblearning.com/catalog/productdetails/9781284184655</p>	✓	
References	HAND OUT	✓	
RESOURCES & SUPPLIES	An Internet browser (e.g. Internet Explorer), connection to the Internet. A storage device for your files (Flash Drive)	✓	

PERFORMANCE OBJECTIVES:

Upon completion of this course, the student should be able to do the following:

- ✓ Explain the fundamental concepts of network security.
- ✓ Recognize the impact that malicious exploits and attacks have on network security.
- ✓ Describe common network topologies and infrastructures and incorporate them into a secure network design.
- ✓ Describe the fundamental functions performed by firewalls, common firewall technologies, and the elements of firewall implementation and configuration.
- ✓ Follow the implementation of a firewall.
- ✓ Describe the fundamental functions of virtual private networks (VPNs), common VPN technologies, and the elements of VPN implementation and management.
- ✓ Follow the implementation of a VPN.
- ✓ Identify firewall and network security management best practices.
- ✓ Evaluate regulations and emerging network security technologies.

INSTRUCTIONAL METHODS:

- ✓ This course will be delivered through the use of lecture presentations, demonstrations, threaded discussions, and limited hands-on experience.
- ✓ Practice:

GRADING:

Student performance will be evaluated based upon the following criteria: Evaluation of the course will include any class assignments or deliverable exercises, and the projects. The instructor will supply the students with a full grading scheme at the beginning of the course.

Midterm	100
Final Exam	100
Group Lab Activity	200
Group Case Analysis Report	100
Group Case Analysis Presentation	50
Class Activity	200
Total:	750

Grading Scheme:

96-100%	A	73-76%	C
90-95%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	61-66%	D
80-82%	B-	< 60%	F
77-79%	C+		

COURSE POLICIES: Late and Incomplete Deliverables:

- Deliverables (Class Assignments, Projects) submitted late are not accepted.

- Deliverables (Class Assignment, Projects) not submitted before the end of the final class will earn 0%.
- Any exceptional, non-academic circumstances need to be discussed with the instructor as soon as they arise, prior to the due date of the deliverable. At the time of the discussion, NO make-up work will be assigned.
- The instructor reserves the right not to award credit for deliverables that are incomplete. Partial credit is awarded at the instructor's discretion, and only for work that merits such an award. Assignments that are incomplete or incongruous with the specifications may be returned to the student.

ATTENDANCE: Students are required to be prepared and attend all class activities. The attendance policy is strictly enforced, and poor attendance may adversely affect your final grade due to class assignments.

MAKE-UP WORK: There will be no makeup or early examinations and late assignments will not be accepted.

ACADEMIC INTEGRITY: Academic integrity is of central importance in this and every other course at CSUDH. You are obliged to consult the appropriate sections of the University Catalog and obey all rules and regulations imposed by the University relevant to its lawful missions, processes, and functions.
All work turned in by a student for a grade must be student's own work. Plagiarism and cheating (e.g. stealing or copying the work of others and turning it in as your own) will not be tolerated, and will be dealt with according to University policy. The consequences for being caught plagiarizing or cheating range from a minimum of a zero grade for the work you plagiarized or cheated on, to being dropped from the course.

STUDENT ACADEMIC APPEALS PROCESS: Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, error, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

ADA STATEMENT: Students with disabilities, who believe they may need an academic adjustment in this class, are encouraged to contact Disabled Student Services as soon as possible to better ensure receipt of timely adjustments.

MIDTERM & FINAL EXAM: Test is during the 8th week of the class and the date for the final exam is based on the final examination schedule printed in the campus Class Schedule. All projects are due no later than the last week of the semester.

(The class schedule is tentative and subject to change as circumstances dictate)

WEEK #	DATE	TOPIC	Reading Assignment/ Computer Lab Topic/Online Module
Week 1	1/28/2023	Course Introduction & Requirements/ Overview of Syllabus, and Course Orientation/ <i>Fundamentals of Network Security</i>	Week 1-Chapter 1-Lab 1- Campus
Week 2	2/4/2023	<i>Network Security Threats</i>	Week 2-Chapter 2-Lab 2- Campus
Week 3	2/11/2023	Common Network Topologies and Infrastructures	Week 3-Chapter 3-Lab 3- Campus
Week 4	2/18/2023	Network Design Considerations	Week 4-Chapter 4-Lab 4- Campus
Week 5	2/25/2023	Firewall Fundamentals	Week 5- Chapter 5-Lab 5- Campus
Week 6	3/4/2023	Firewall Implementation	Week 6- Chapter 6-Lab 6- Campus
Week 7	3/11/2023	Firewall Deployment Considerations	Week 7- Chapter 7-Lab 7- Campus
Week 8	3/19/2023	Midterm	Midterm Exam covers Chapters 1-7
Week 9	3/25/2023	VPN Fundamentals	Week 9-Chapter 9-Lab 8- Campus
	4/1/2023	Spring Recess-No Classes	
Week 10	4/8/2023	VPN Management	Week 10- Chapter 10-Lab 9- Campus
Week 11	4/15/2023	VPN Technologies	Week 11-Chapter 11-Lab 10- Campus
Week 12	4/22/2023	Firewall Security Management	Week 12- Chapter 13-Campus
Week 13	4/29/2023	Best Practices for Network Security Management	Week 13- Chapter 14-Campus
Week 14	5/6/2023	Group Case Analysis Presentation	Week 14- Campus/ Due for Group Lab Report/Group Case Analysis Report
Week 15	5/11/2023	Final Exams Week	Final Exam covers chapters 9-11, and 13, 14



GO TOROS!

Technology Requirements

Computer:

You must have access to a reliable computer for this course. If you are on campus, and do not have a laptop, you can check out a laptop from the IT User Services Help Desk via [Technology Checkout Program](#). In addition, the [CSUDH Toro Lab](#) offers on campus access to workstations with a wide variety of commonly used software.

Visit the [CSUDH Academic Technology Online Courses Technical Requirements](#) page for more information on technology requirements.

Email:

All email communications from this course will go through your [Toromail](#). Toromail is the CSUDH student email system.

Internet and Campus Wireless Network:

You must have Internet access to participate in this course. If you are on campus, connect your laptop and mobile device to the internet using the [eduroam](#) campus wireless network.

Office 365:

Course work will require you to submit work in Word format (.docx files). Active CSUDH students have access to [Office 365 \(Word, Excel, PowerPoint\)](#) for personal desktop and laptop computers at no cost.

Blackboard Learn

You may access the course through Blackboard Learn <https://toro.csudh.edu>. You have the flexibility in an online course to study and participate according to your work and personal schedule within each week of study. However, you must still complete assignments by their required due dates.

Your challenge is to dedicate the required time for study within your personal schedule. This syllabus, including the schedule and due dates, should support you in managing time effectively. Marking your study and your online discussion time in your personal calendar also will help.

As part of your personal schedule, make sure you check the Announcements and my Online Office several times a week so that you can see if I have posted any new information about the course.