Firewalls and Network Security (ITSY 2301 6A1)

CREDIT
3 Semester Credit Hours (2 hours lecture, 4 hours lab)

MODE OF INSTRUCTION
Hybrid

PREREQUISITE/CO-REQUISITE:
None

COURSE DESCRIPTION
This course covers elements of firewall design, types of security threats and responses to security attacks, the use of Best Practices to design, implement, and monitor a network security plan, and the examination of security incident postmortem reporting and ongoing network security.

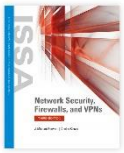
COURSE OBJECTIVES
Upon completion of this course, the student will be able to

1. Demonstrate system security skills through firewall implementation and testing.
2. Use system tools, practices, and relevant technologies to implement a security plan.
3. Evaluate practices, tools, and technologies to identify security breaches, sources of attacks, and protect mission critical systems.
4. Establish an appropriate level of security based on an analysis of security logs.
5. Use relevant tools to secure a network, respond to and follow up on various types of attacks.

INSTRUCTOR CONTACT INFORMATION

Instructor:	Steven Veron
Email:	sdveron@lit.edu
Department Office Phone:	N/A
Department Office Location:	TA-4, Room 108
Office Hours:	By Appointment

REQUIRED TEXTBOOK AND MATERIALS



1. ***Network Security, Firewalls, and VPNs, Third Edition,*** J. Michael Stewart; Denise Kinsey, PhD, CISSP, PMP; Jones & Bartlett, 2022. **(**www.jblearning.com.)
   a. The link to the Third Edition of the eBook and the corresponding Cloud Labs is https://www.jblearning.com/catalog/productdetails/9781284184655. If this link is broken, use the keyword "Firewall" and select the Third Edition, then the bundle that includes both the eBook and the Cloud Labs. If you prefer a print book, there is a Paperback + Cloud Labs bundle at a higher cost.
   b. Check the Overview section for a **15% discount** once you have chosen your bundle.
   c. Once you have paid for the bundle, go to the Blackboard links to access the eBook and the labs.
2. Computer Networking and Troubleshooting Technology and Cybersecurity students are required to have one 64 GB or larger capacity USB Flash Drive to be used for the duration of the time to complete their respective degree.

ATTENDANCE POLICY

Three absences are allowed. If a student is tardy to class or departs early three (3) times, it will be equal to one (1) absence. Each absence beyond three absences will result in a 2-point deduction from your final grade.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

COURSE CALENDAR

DATE	TOPIC	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)
Week 1	Syllabus Course Introduction Instructions for Textbook/Labs Purchase Project: Network Design and Plan Intro		
Week 2	Fundamentals of Network Security	Chapter 1	Lab 1, for Chapter 1 Chapter 1 Quiz
Week 3	Network Security Threats	Chapter 2	Lab 2, for Chapter 2 Lab 3, for Chapter 2 Chapter 2 Quiz
Week 4	Common Network Topologies and Infrastructures	Chapter 3	Chapter 3 Quiz

Week 5	Network Design Considerations	Chapter 4	Lab 4, for Chapter 4 Chapter 4 Quiz
Week 6	Firewall Fundamentals Test 1 Project Part 1: Network Design	Chapter 5	Test 1: Chapters 1-4
Week 7	Firewall Fundamentals	Chapter 5	Lab 5, for Chapter 5 Chapter 5 Quiz
Week 8	Firewall Implementation Firewall Deployment Considerations	Chapter 6 Chapter 7	Lab 6, for Chapter 6 Chapter 6 Quiz
Week 9	Firewall Deployment Considerations Hands-on Firewall Project Introduction Configuring Firewalls Project Part 2: Firewall Selection and Placement	Chapter 7 Chapter 8	Lab 7, for Chapter 7 Chapter 7 Quiz
Week 10	Configuring Firewalls VPN Fundamentals	Chapter 8 Chapter 9	Lab 8, for Chapter 8 Chapter 8 Quiz
Week 11	VPN Fundamental Test 2s	Chapter 9	Chapter 9 Quiz Test 2: Chapters 5-8
Week 12	VPN Management	Chapter 10	Lab 9, for Chapter 10 Chapter 10 Quiz
Week 13	VPN Technologies VPN Implementation	Chapter 11 Chapter 12	Lab 10, for Chapter 11 Chapter 11 Quiz
Week 14	VPN Implementation Project Part 3: Remote Access and VPN	Chapter 12	Extra-Credit Lab 11, for Chapter 12 Chapter 12 Quiz
Week 15	Test 3 Review for Final Exam		Test 3: Chapters 9-12 Hands-on Firewall Project
Week 16	Project Part 4: Final Network Design Report		Class Project Due

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

- Labs 40%
- Study Guides 10%
- Tests 25%
- Final Exam/Project 25%

GRADE SCALE

- 90-100 A
- 80-89 B
- 70-79 C
- 60-69 D
- 0-59 F

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be found online at https://lit.edu/online-learning/online-learning-minimum-computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the LIT Catalog and Student Handbook. The LIT Catalog and Student Handbook may be accessed at www.lit.edu. Please note that the online version of the LIT Catalog and Student Handbook supersedes all other versions of the same document.

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

Course Policies

1. No food, drinks, or use of tobacco products in class.
2. Electronic devices not being used for the class, such as phones and headphones, must be turned off while in class. Any device usage during class may result in a deduction of points on an assignment or test.
3. Do not bring children to class.
4. Certification: If s student passes the certification test that is associated with this class you will receive an "A" on the final exam and credit for 25% of your labs. If you have missed a previous test you must still take the final exam to substitute for that grade.
5. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an 'F' in the course.
6. Tools: Return all tools and/or software to their designated place.
7. A grade of 'C' or better must be earned in this course for credit toward degree requirement:
8. Additional course policies, as defined by the individual course instructor, will be outlined in the course addendum and provided by the instructor.

Certification Requirement

CSNT majors are required to earn certification in one of the following areas prior to graduation.

- A+ Certification
- Network+ Certification
- Security+ Certification
- Linux+ Certification
- Cisco Certified Network Associate (CCNA)