

ITIS 109: NETWORK AND COMPUTER SECURITY

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2023
Credits:	4
Total Contact Hours:	108
Lecture Hours :	54
Lab Hours:	54
Hours Arranged:	0
Outside of Class Hours:	108
Strongly Recommended:	ENGL 101.
Transferable to CSU:	No
Transferable to UC:	No
Grading Method:	Standard Letter, Pass/No Pass

Catalog Course Description

Covers basics of general security concepts, network security, communication security, infrastructure security. Business continuity, disaster recovery, planning and prevention will be covered. This course will lay the foundation for attendees to complete the Comp TIA Security+ certification tests. 54 lecture hours, 54 lab hours.

Course Objectives

- The student will articulate, using non technical language, the importance of security in the information technology fields, by presenting an oral or written report in preparation for industry presentations. Using online resources and print, translate information into implications of real world security concerns and reactions, by participating in classroom or web discussions to apply results to real world scenarios.
- Perform computations based on data collected from computer network analysis and apply results to laboratory experiments to validate outcome.
- Develop an understanding of security concepts and apply them to setup and definition of policies and procedures relating to business implementations for secure computing.
- Using knowledge of technology and security concepts discuss ethical behavior when working in a global network, by participating in group discussions online and in the classroom to demonstrate the student's ability to participate in a global environment.
- The student will perform configuration tasks using computers and techniques that will result in a secure computing environment, by completing laboratory assignments along with quizzes and homework assignments.
- Relate an understanding of network concepts to perform a baseline security analysis for information technology industries by performing laboratory experiments and preparing written essays and homework assignments to demonstrate and understanding of security concepts.
- Use various electronic and computer based equipment to monitor and react to malicious intrusions onto private networks by answering questions in homework assignments and performing computer

laboratory experiments to develop a deeper understanding of malicious computer code.

- Evaluate documentation from National Security Agency (NSA) and apply information to protecting and hardening server and data infrastructures by answering essay exams and completing homework assignments to demonstrate the ability to read and implement real-world information.

Major Course Content

1. General Concepts
 - a. Introduction to Security
 - b. Security Threats
 - i. Malicious Software
 - ii. Malware
 - c. Security Applications
 - i. Firewalls
 - ii. Pop-Up Blockers
 - iii. Securing Storage and Mobile Devices
2. Access Control Methods and Models
 - a. Rights, Permissions, and Policies
3. Communication Security
 - a. Remote access technologies
 - b. Email security concepts
 - c. Internet security concepts
 - d. Directory security concepts
 - e. Wireless technologies and concepts
4. Application Security
 - a. Secure Programming
5. Network Design Elements
 - a. Cloud Security
6. Network Protocols and Threats
 - a. Malicious Attacks
7. Encryption and Hashing Concepts
8. PKI and Encryption Protocols
9. Disaster Recovery
10. Policies and Procedures

Lab Content

1. Access control
2. Operating system setup and security considerations
3. Physical environment setup and considerations
4. Application software used for maintaining a secure environment
5. Use of secure communication techniques
6. Risk assessment

Suggested Reading Other Than Required Textbook

Outside reading will focus on industry-related journals and periodicals in the field of networks and security.

Examples of Required Writing Assignments

Required writing assignments will include researching specific topics within the security fields and writing executive summaries of the information obtained.

Examples of Outside Assignments

Assignments outside of class will require answering multiple choice and short answer questions in preparation for industry certification exams.

Instruction Type(s)

Lab, Lecture, Online Education Lab, Online Education Lecture