

Department:

Computer Support Technology

Course Description:

This course is designed as an introduction to secure computer networking administration and maintenance. The course will examine typical network hardware, network architectures, data transmission, and popular network technologies as well as how communication layers and their protocols are used on a network with security best practices in place. The course will introduce students to installing Windows Server and Linux Server troubleshooting of network problems, and ensuring integrity and stability of a network.

Course Competencies:

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

1. Describe principles of network security.
2. Identify the standards pertaining to compliance and operational security.
3. Identify threats and vulnerabilities.
4. Identify methods to secure applications, data, and hosts.
5. Understand and implement access controls and manage user accounts and authentication.
6. Describe the various forms of cryptography and its uses.

Course Content:

- A. Introduction to Security
- B. Malware and Social Engineering Attacks
- C. Basic Cryptography
- D. Advanced Cryptography
- E. Networking and Server Attacks
- F. Network Security Devices, Design, and Technology
- G. Administering a Secure Network
- H. Wireless Network Security
- I. Client and Application Security
- J. Mobile and Embedded Device Security
- K. Authentication and Account Management
- L. Access Management
- M. Vulnerability Assessment and Data Security
- N. Business Continuity
- O. Risk Mitigation

Learning Assessments:

Competencies will be assessed by assignments, case problems, quizzes, chapter tests, hands-on projects, lab assignments, a midterm test, and a final test. The test can be in the objective format or in a problem solving format.

Instructional Materials:

Textbooks: Ciampa, M. (2018). *CompTIA Security+ Guide to Network Security Fundamentals* (6th ed.). Boston, MA: Cengage Learning. ISBN-13: 978-1337288781

Barrett, D. & Weiss, M. (2018). *CompTIA Security+ SY0-501 Exam Cram* (5th ed.). Indianapolis, IN: Pearson IT Certification. ISBN-13: 978-0789759009

Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students **must** complete the “Disabilities Self-Identification Form” on our [Disability Services website](#).

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.

A Note on Harassment, Discrimination and Sexual Misconduct

Highland Community College seeks to assure all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX, and College policy prohibit harassment, discrimination and sexual misconduct. Highland Community College encourages anyone experiencing harassment, discrimination or sexual misconduct to talk to report to the Vice President for Student Services, the Human Resources Director or complete an [online report](#) about what happened so that they can get the support they need and Highland Community College can respond appropriately.

There are both confidential and non-confidential resources and reporting options available to you. Highland Community College is legally obligated to respond to reports of sexual misconduct, and therefore we cannot guarantee the confidentiality of a report, unless made to a confidential resource. Responses may vary from support services to formal investigations. As a faculty member, I am required to report incidents of sexual misconduct and thus cannot guarantee confidentiality. I must provide our Title IX coordinator with relevant details such as the names of those involved in the incident. For more information about policies and resources or reporting options, please review our [Equity Grievance Policy](#).