

University of Arkansas – Fort Smith
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General Syllabus

CS 4503 Network Security

Credit Hours: 3

Lecture Hours: 3

Laboratory hours: 0

Prerequisite: CS 3223 Routing and Switching and CS 3503 IT Security

Effective Catalog: 2018-2019

I. Course Information

A. Catalog Description

Analyzes security threats to modern networks and the methods used to secure networks against these threats. Topics include the setup and maintenance of boundary barriers; securing device access; using authentication, authorization, and accounting systems; implementing firewall technologies; implementing intrusion prevention systems; the use of cryptographic systems; implementing and securing remote access; and the continuing management requirements of maintaining a secure network.

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Create, document, and implement a security plan for a LAN/WAN.
2. Evaluate and assess possible types of network security threats and countermeasures.
3. Design, configure and manage remote access authentication and encryption, Virtual Private Networks (VPNs), and firewalls.

B. University Learning Outcomes

This course enhances student abilities in the following area:

Analytical Skills

Critical Thinking Skills: Students will identify network security problems, break the problems down into component parts and develop a solution.

III. Major Course Topics

- A. Modern Network Security Threats
- B. Securing Network Devices
- C. Authentication, Authorization, and Accounting Systems
- D. Firewall Technologies
- E. Intrusion Prevention Systems
- F. Endpoint Security
- G. Cryptographic Systems
- H. Virtual Private Networks
- I. Managing a Secure Network