Syllabus

Hardware/Firewall Security Implementation CSC432

Instructor: Janis Rose

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Classroom: UHB 2032

Prerequisites: None

Course Objectives

The main goal of this course is to provide you with a fundamental understanding of firewalls and their implementation. Although vendors' firewall products vary greatly, fundamental underlying principles do not vary because of the nature of the technology. The course covers firewalls such as the Cisco ASA, Cisco PIX 501E, Linksys and personal firewalls such as Windows Firewall and Trend Micro's Firewall. The course intends to provide students with a foundation in firewall technology such that they can immediately put to use their knowledge of this important class of devices in network security and readily expand their knowledge in the future.

The course is divided into three sections. The initial focus is on the basics of firewalls and a review of TCP/IP. The core content lies in Part II and Part III where the focus shifts to placing firewalls on the network, implementing various firewall products, managing them, selecting appropriate firewall features, and troubleshooting. Students seeking graduate level credit will complete additional project assignments.

In this course you will learn how to:

- Understand what firewalls are and what threats they are designed to protect against
- Review TCP/IP protocols, applications and services, & configure firewalls to control them
- Evaluate personal and desktop firewalls such as Windows and TrendMicro Firewalls
- Examine how broadband router/firewalls including the Cisco PIX and ASA
- Deploy appliance-based firewalls including the Cisco PIX and ASA
- Configure Linux-based firewalls from ipfwadm to ipchains to latest incarnation, NetFilter
- Perform basic configuration for application proxy firewalls

- Understand firewall security policies and rulesets to provide secure management access
- Examine managements tools used to manage personal and small firewalls
- Learn to read firewall logs & understand how to use that information for forensic analysis
- Build troubleshooting checklists to manage traffic flow and diagnose problems
- Learn about the advanced features that firewalls can provide

Disability Services

Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of class of any accommodations needed for the course. Late notification may cause the requested accommodations to be unavailable. All accommodations must be approved through the Office of Disability Services (ODS) in the Human Resources Building (HRB), Room 80, 217-206-6666.

Course Materials

Assignments, grade book, and other resources relevant to the course are posted on the UIS Blackboard site.

Required text:

Firewall Fundamentals: An Introduction to Network and Computer Firewall Security

Wes Noonan and Ido Dubrawsky

Cisco Press 2006

ISBN 1-58705-221-0

Contacting the Instructor

If you have any questions about the course or need assistance, please contact the instructor by email at any time. rose.janis@uis.edu

When sending an email, please put [UIS CSC432A] in the subject line. This will assure that your email is filtered out to my attention.

If you do not follow the above instructions, you will receive a reply which begins as follows:

> This email has not been properly processed through the recipient's filters because its subject line does not meet the criteria outlined in class instructions. Please refer to materials posted in Blackboard and resubmit this email.

If you receive the above message, you must re-send a corrected email, making certain to use an email subject line that follows the instructions given above.

Please note that I expect students will have read and be familiar with all information contained in the files that are posted on Blackboard. Emails asking questions that are answered in Blackboard files will be answered AFTER other emailed questions whose answers are not posted.

Assignments

Assignments are due no later than 11:59 pm CT on the due date. Generally, assignments will be submitted through the Digital Dropbox. Assignments turned in late will have 10% deducted for each day overdue.

Missed Tests

If you have reason to believe that you may have a conflict and might not be able to take a test as scheduled, you should arrange to take the test BEFORE the due date.

Tests which are taken late will have 10% deducted for each day late.

Plagiarism

I cannot emphasize this enough. All work must be your own.

Plagiarism, defined as copying or receiving materials from a source or sources and submitting this material as your own, is never permitted. Collaboration, evidenced by similarity, is never allowed in individual assignments. If you are writing up a discussion, do NOT copy/paste from a website or other source. If you need to use someone else's words, put them in quotes and give the source. Your own words should constitute the majority of the work that you turn in.

Submitted academic work may be subject to screening by software programs designed to detect evidence of plagiarism or collaboration.

Any student found to be in violation of academic integrity will receive an F for the assignment. Repeated offenses may result in an F for the course.

Please note that I enforce academic integrity and plagiarism will not be ignored! If you have any questions about this policy, please ask me.

Course Calendar

The course calendar is the FINAL WORD on when an assignment is due. Note that the course calendar may change frequently. You are expected to check the course calendar every day or so to be aware of changes in due dates. It is your responsibility to stay advised of assignment due dates by checking the course calendar several times per week. Times given in the Course Calendar may be ignored. As a rule of thumb, all assignments are due at 11:59 PM Central Time on the due date.

Grading and Evaluation Criteria

Please note that grading for this class is weighted according to the following percentages:

40% of the grade is based on problem sets

30% of the grade is based on the chapter tests

20% of the grade is based on the semester projects

10% of the grade is based on posting discussions and participations

The following scale is used:

94 – 100	A
90 – 93	A-
87 – 89	B+
84 – 86	B
80 – 83	B-
77 – 79	C+
74 – 76	C
70 – 73	C-
67 – 69	D+
64 – 66	D
60 – 63	D-
<60	F