

CS471

Security & Info Assurance

Welcome!
4/3/2023

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Course Schedule

Week #	Monday	Wednesday	Reading	Weekly Topic	Due	Assigned
1	01/16/23	01/18/23		Getting started		
2	01/23/23	01/25/23	Chapter 1	Introduction		Assignment 1
3	01/30/23	02/01/23	Chapter 2	Symmetric Encryption	Assignment 1	Assignment 2
4	02/06/23	02/08/23	Chapter 3	Asymmetric Encryption	Assignment 2	Assignment 3
5	02/13/23	02/15/23	Chapter 4	Key Distribution and Authentication	Assignment 3	
6	02/20/23	02/22/23	Chapters 1-4	Review : Midterm 1		
7	02/27/23	03/01/23	Chapter 5	Network Access Control		Assignment 4
8	03/06/23	03/08/23	Chapter 6	Transport Level Security	Assignment 4	Assignment 5
9	03/13/23	03/15/23	Chapter 7	Wireless Network Security		
10	03/20/23	03/22/23	Chapter 8	DNS and Email Security	Assignment 5	
11	03/27/23	03/29/23		Spring Break		
12	04/03/23	04/05/23	Chapters 1-8	Review : Midterm 2		
13	04/10/23	04/12/23	Chapter 9	IP Security		Assignment 6
14	04/17/23	04/19/23	Chapter 10	Malicious Software	Assignment 6	Assignment 7
15	04/24/23	04/26/23	Chapter 11	IDS		
16	05/01/23	05/03/23	Chapter 12	Firewalls	Assignment 7	
17	05/08/23	05/10/23		Finals Week		
	*No Meeting			Final Exam: TBD		

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The X.800 service categories will be important for the entire semester.

As we examine security, this will be our measure.

- X.800 Service Categories

- Authentication
- Access control
- Data confidentiality
- Data integrity
- Non-repudiation

X.800 SERVICE CATEGORIES

- Authentication
- Access control
- Data confidentiality
- Data integrity
- Nonrepudiation



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Technologies that provide security services:

Confidentiality

- Encryption
- TLS
- SSH

Authentication

- EAP
- EAPOL
- Encryption

Access Control

- Kerberos
- 802.1x
- Firewall

Integrity

- Hashing
- Digital Certificates

Non-Repudability

- Asymmetric Encryption
- Digital Certificates

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This Week:

Midterm Exam Discussion Today

Midterm Wednesday, 4/5 5:00-6:150PM

Midterm Format

- Using the Respondus Lockdown Browser
- 100 points max score. 110 points available.
- 11 questions
- Essay format answers
- Closed book: No Books, Notes, or outside resources.
- Submit by 6:30

Respondus test quiz still available

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Midterm Topics

- Textbook chapters 5-8

Previous topics worth reviewing

- Security Service Categories
 - Authentication
 - Access Control
 - Data Confidentiality
 - Data Integrity
 - Non-Repudiation
- Encryption
 - Symmetric vs Asymmetric
 - Diffie-Hellman
 - RSA, DES, 3DES
 - Substitution ciphers
 - Key exchange
- Anatomy of MitM attacks

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Midterm exam topics to review

What is it, and what services does it provide?

- EAP
- EAPOL
- 802.1X
- 802.11i

TLS

- Handshake
- Session
- Connection

Firewalls

- IPTables assignment

DNS

- What makes DNS insecure
- DNSsec: what services are added?

MitM

- Attack and mitigation

Wireless network security

- What services are provided to add security to WIFI?

Auditing tools

- For each, how do these tools strengthen or weaken security?
- NMAP
- Wireshark
- Kismet

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Next week:

- Chapter 9: IP Security

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Thank you!