CS471
Security & Info Assurance

Welcome!
2/15/2023

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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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Today

– Midterm Exam
– Respondus Quiz
– Assignment 3
– Chapter 4 Lecture

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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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Confidentiality

– What is 'data confidentiality'?
   "Keeping our secrets secret"
– How can we provide confidentiality?
   Encryption
– What are the challenges?
   Keys, Key Exchanges, Authentication

Do we *NEED* authentication to maintain confidentiality?
   Yes!

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Authentication

– What is authentication?
   Identify the other party
– How do we provide authentication in the person?
   We use a token that is difficult to forge or copy.
   This must be from a trusted third party.
   Example: Driver's license or passport.
– How can we provide data authentication online?
   Public key authentication?..

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Assignment 3:

Perform brute force password attacks against an SSH
server using Hydra.

Use Wireshark to capture packets.

Analyze and discuss the results.

Questions?

https://www.kali.org/tools/hydra/

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Midterm Exam

Midterm Exam Discussion 2/20/23
    Specific exam topics discussed
Midterm 2/22/23 5:00–6:15pm
    No class meeting
Respondus test quiz now available
    Take this soon!

Midterm Format

- Using the Respondus Lockdown Browser
- Video camera required
- 11 questions
- 100 points maximum score (110 points available)
    *This is to your advantage.
- Essay format answers
- Closed book: No Books, Notes, or outside resources.

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Lecture

Chapter 4: Key distribution and Authentication

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Before next time:

- Review chapters 1-4 from the textbook.
- Submit Assignment 3

Next Time:

Midterm Exam Discussion

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Thank you!