

# CS471

## Security & Info Assurance

Welcome!  
2/20/2023

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## Security & Info Assurance

### 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 : <b>Midterm 1</b>		
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 : <b>Midterm 2</b>		
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: <b>TBD</b>		

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## **Today**

- Midterm Exam Discussion

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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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## 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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## Midterm Exam Topics

- Security Service Categories
  - Authentication
  - Access Control
  - Data Confidentiality
  - Data Integrity
  - Non-Repudiation
- Steganography
- Diffie-Hellman
- DES encryption
  - Specific Details
- RSA encryption
  - Specific Details
- MD5 Hashing
- MiTM Attacks
- Passwords
- Authentication
  - Means of authentication
- Key Exchange
- Symmetric vs Asymmetric



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## **Midterm Exam**

Start at 5:00pm for maximum time.  
Submit by 6:30.

Good luck!

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### **Next week:**

- Chapter 5: Network Access Control
- Assignment 4

### **Next Time:**

Midterm Exam: No Class meeting

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**Thank you!**