

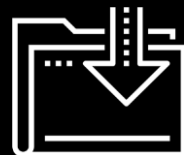


Fireside Cyberchat

“All the world’s a stage and all the men and women
merely players”



-William Shakespeare (As You Like It, Act II Scene VII)

Cybersecurity
Cybersecurity Day 3



Class Objectives

By the end of class today, students will be able to:

-  Discuss the different domains for the cybersecurity industry.
-  Search for entry-level cybersecurity jobs using relevant keywords.



*Let's start with a
quick review!*

Quick Review

Last class we introduced a framework that captures the fundamental goal of information security.

What was the framework?

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What was the framework?

The CIA Triad

Let's Review:

What are the **three elements** of
the CIA Triad?

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Let's Review:

Define each of the three elements in the context of information security:

Confidentiality

Integrity

Availability

Let's Review:

Define each of the three elements in the context of information security:

Confidentiality:

Ensuring sensitive information is protected from reaches of unauthorized persons.

Integrity:

Protection of information from being modified or tampered by unauthorized persons.

Availability:

Assuring that all operating systems, equipment, and data are functioning correctly and access by those who need it.

Let's Review:

Provide an example of how each of the three elements can be adversely affected:

Confidentiality

Integrity

Availability

Let's Review:

Provide an example of how each of the three elements can be adversely affected:

Confidentiality:

Banking breach releases credit card info into the public.

Integrity:

Student modifies official grades for himself and his friends.

Availability:

Hackers disable a website through a denial of service attack.

A black silhouette of a person standing on a jagged mountain peak, holding a flag aloft. A dashed white line indicates a path leading up the mountain. The background is a light blue geometric pattern.

Activity: Research Presentations

Last class, we introduced a number of threats for you to explore. It is now time to present your group research.

Slack your presentations to the instructor.

Suggested Time:
50 Minutes



Homework Review: Research Discussions

1. What is this threat? (or What was it?)
2. What damage has it done?
3. What steps can or have been taken to mitigate?

Blue Sky	Blue Thunder	Smurf Society	Blue Paws	Jet Blue	Blue Clues	Blues Three	Blue Team
Morris Worm	Code Red	Mirai	APT-28	APT-29	BadRabbit	Gh0st RAT	Stuxnet

Vulnerability, Exploits, and Threat Actors

Take a Break!





Activity: Cyberspace Domains

In this activity, you will explore a cybersecurity domain map. You will then research subdomains that are unfamiliar and interesting to you.

Instructions sent via Slack.

Suggested Time:
15 Minutes



Cybersecurity Domains

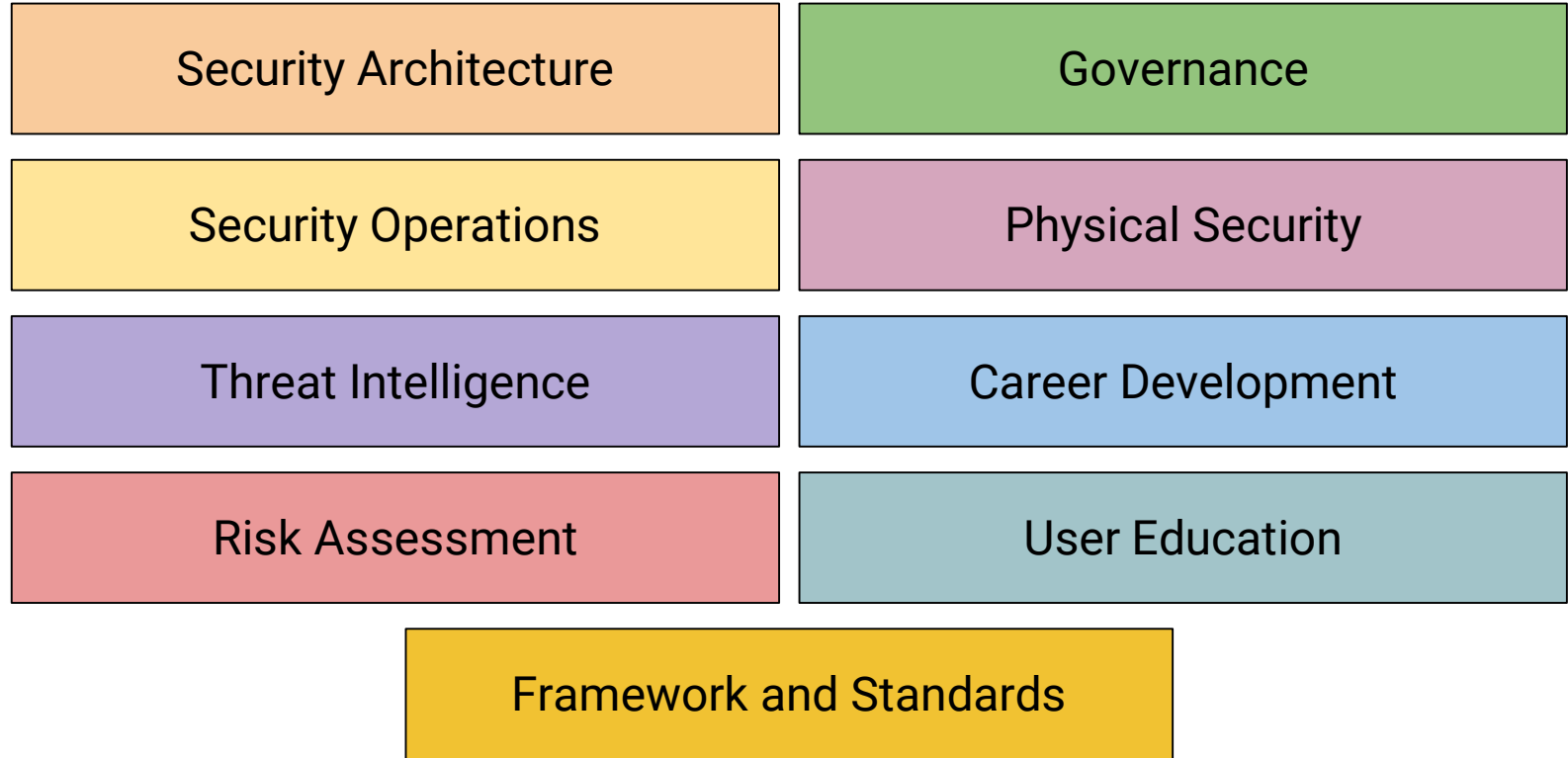
Your Turn: Cybersecurity Domain Exploration

Instructions:

1. Take a few minutes to explore the Cybersecurity Domain map:
<https://www.linkedin.com/pulse/map-cybersecurity-domains-version-20-henry-jiang-ciso-cissp/>
2. Create a quick worksheet for yourself with the names and definitions of the major domains (1st nodes).
3. Take a few minutes to define 4-5 terms or topics that are unclear.
4. Then take a few minutes to choose the two domains of greatest interest and explore the sub-topics related to it.
5. *Be prepared to share*



Cybersecurity Domains Review



Cybersecurity Careers



Activity: Finding a Job in Security

Now that you have a basic understanding of the core cyber domains, you'll look through some job listings.

Instructions sent via Slack.

Suggested Time:
5 Minutes



Your Turn: Finding a Job in Security... *Blindly*

Instructions

Take a few minutes to search popular job listing websites (Indeed, LinkedIn, Dice) for “Cybersecurity Jobs”.

Be prepared to share:

- ☐ What search terms did you use?
- ☐ How many jobs did you find?
- ☐ What did the job descriptions entail?
- ☐ What skills / qualifications did you see frequently?



Sample (Entry-Level) Cybersecurity Titles

Knowing the **correct** job titles and job types is the first step towards pursuing a career in the space. Be precise in your search!

Security Analyst	Security Operations Center (SOC) Analyst	Security Engineer	Systems Engineer
Cyber Threat Analyst	Cyber Defense Analyst	Incident Response Analyst	Intelligence Analyst
Information Assurance Technician	Risk Analyst	Forensics Investigator	Systems Administrator
Network Engineer	IT Auditor	Application Security Engineer	Penetration Tester
Information Analyst	Systems Security Analyst	IT Specialist	Web Engineer - Application Security

Your Turn: Finding a Job in Security... *Clearly*

Instructions

Select any three job titles shown on the previous slide and repeat the job search exercise.

Be prepared to share:

- ☐ What search terms did you use?
- ☐ How many jobs did you find?
- ☐ What did the job descriptions entail?
- ☐ What skills / qualifications did you see frequently?
- ☐ Is there anything surprising that stands out to you?



Career Context: Some Numbers

The following career stats will give you insight into the teeming demand for cybersecurity jobs:

- According to Frost and Sullivan and (ISC)2, there will be **more than 1.5 million unfilled cybersecurity positions by 2020**.
- ISACA found that: **53% of organizations experiences delays as long as 6 months** to find qualified cybersecurity candidates; Cyber jobs grew at a rate **3x as fast as IT jobs** between 2010-2014; and **84% of organizations** believe that half or fewer applicants are qualified for open security jobs.



According to (ISC)2, a full **87% of all cybersecurity professionals** started doing something different.

Career Context (Desired Skills)

Tickets Certifications

Certifications like Network+, Security+, CEH, and CISSP establish a baseline level of competency and are seen as a rite-of-passage for many jobs.

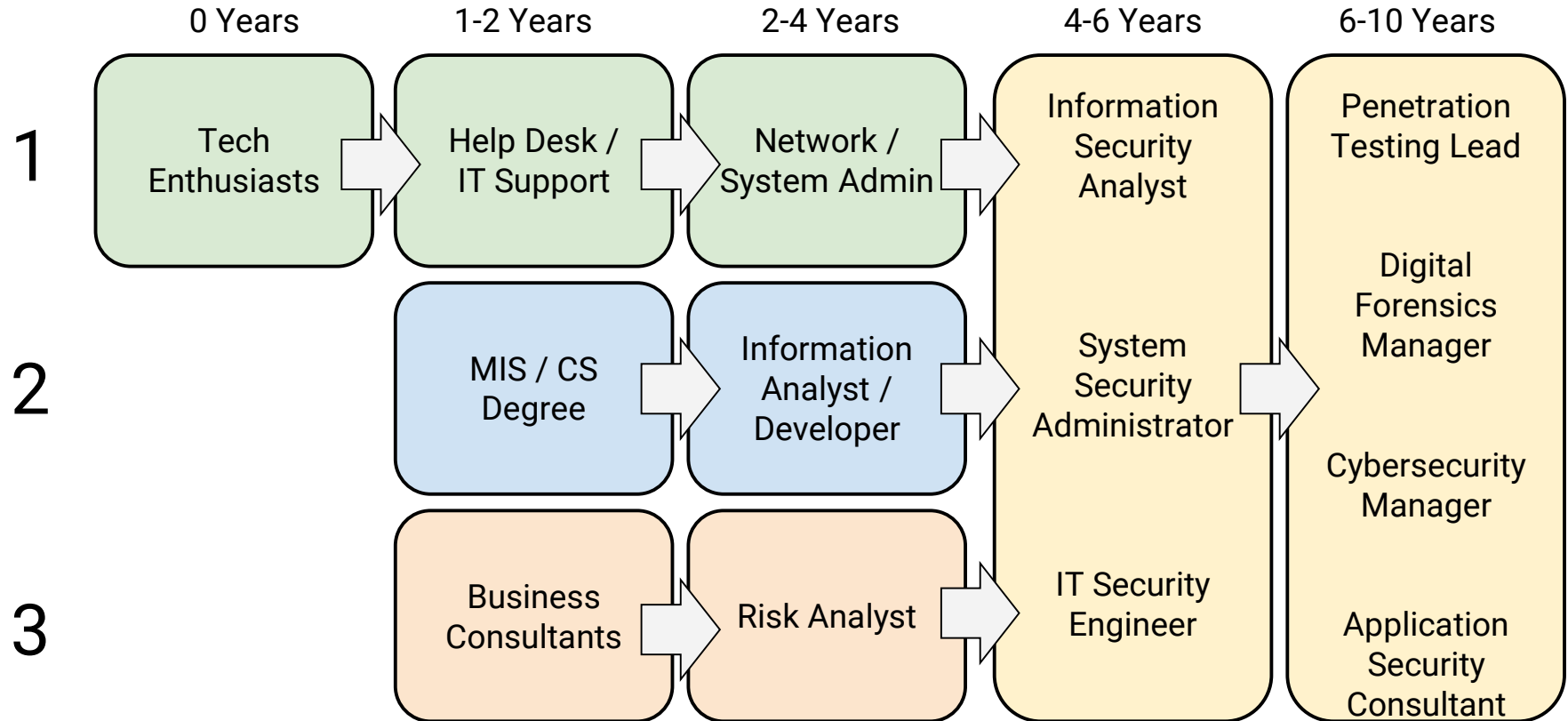
Tenets Core Knowledge

Core knowledge of topics like Networking, TCP/IP, OSP layers, and encryption provide a common language around theory and fundamentals.

Tools Applied Skills

Proficiency with modern tools like Wireshark, Kali Linux, basic programming, and Metasploit ultimately drive a professional towards being a practitioner in the field.

Career Context (Common Pathways)



Fireside Chat

Fireside Chat

For the next hour, we'll be having a fireside chat with our Instructors and TAs to hear their career stories, get their perspective on industry, and tips for breaking the field.





Preview of Next Week

In the Coming Weeks...

Unix



Fair Warning:

Over the next few weeks we'll be ratcheting up the challenge level in this class. If you are unfamiliar with the command line or programming – be prepared to put in some sweat.

Don't worry, it will be fun!



Any Questions?