

## RECOMMENDED PREPARATION FOR THE CYBER ACADEMY

Although we have no formal prerequisites for the Cyber Academy, we have found that familiarity with computer networks and protocols is very beneficial. Depending on your background, you may or may not need to invest a lot of time in this. However, if you have no background in networking, you should set aside a few days to acquire some familiarity with network communications.

### 1. For a solid introduction to networks and network protocols, we recommend:

*Practical Packet Analysis: Using Wireshark to solve real-world network problems* by Chris Sanders (3rd edition). 2017. No Starch Press. But you don't have to read the whole book. Start with chapter 1, and then move on to chapters 7, 8 and 9. This is a great introduction because it includes many screenshots of Wireshark, and you will be using Wireshark in the program. It's also a great reference that you can return to over and over again.

### 2. For hands-on experience, we recommend a subset of the Wireshark labs

Find the labs at: <https://www-net.cs.umass.edu/wireshark-labs/>. These labs are associated with a textbook (*Computer Networking: A Top-Down Approach*, 7<sup>th</sup> ed. by J.F. Kurose and K.W. Ross), but the labs are nicely self-contained so it is not necessary to purchase the book. The labs will give you an opportunity to work with Wireshark and see actual network traffic in action. There are a lot of labs here, but we don't think it's necessary to look at all of them. We recommend completing at least the first three:

- Getting Started, v7.0
- HTTP, v7.0
- DNS, v7.01

All you need to complete these labs is a personal computer and a good internet connection. Download Wireshark for your particular OS from <http://www.wireshark.org/download.html>. Follow the instructions for each lab, and answer any questions in the lab.

This is independent pre-work intended to impart some foundational knowledge and skills and to help you to self-assess if the program is right for you. We will not provide feedback on your work.

### 3. As a final resource, Cisco has a collection of networking videos which are very good.

You probably don't need to go past the first three videos in the series which starts here: <https://www.youtube.com/watch?v=n2D1o-aM-2s&feature=youtu.be>

**IMPORTANT NOTE:** Cyber security relies on a solid understanding of computer networks and network communications. Many professionals worked as network administrators before moving into cyber security. If you have no interest in this material and working with Wireshark does not motivate you to want to learn more, this might not be the field for you. That being said, don't be discouraged if all of the technical details don't stick

right away. You may need to reread the key chapters in *Practical Packet Analysis* two or three times before it all starts to stick. This is highly technical material, and it benefits from repetition.

And then, you might find it useful to read this blog article for folks who are trying to transition into infosec:  
<https://tisiphone.net/2015/10/12/starting-an-infosec-career-the-megamix-chapters-1-3/>

The author is a successful infosec professional and mentor. You can follow her Twitter feed here:  
<https://twitter.com/hacks4pancakes>

Now you are ready for success in the Cyber Academy!

### **For more information**

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