2023 Fall
Information Security: A Hands-on Approach

Overview

Po-Wen Chi

About this Course

- **Teacher:** 紀博文 Po-Wen Chi
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- **Time:** Mon AM 9:00-12:00
- **Classroom:** B101
- **TA:** 呂昀修
- https://sites.google.com/gapps.ntnu.edu.tw/neokent/teaching/2023fall-information-security-a-hands-on-approach

Motivation

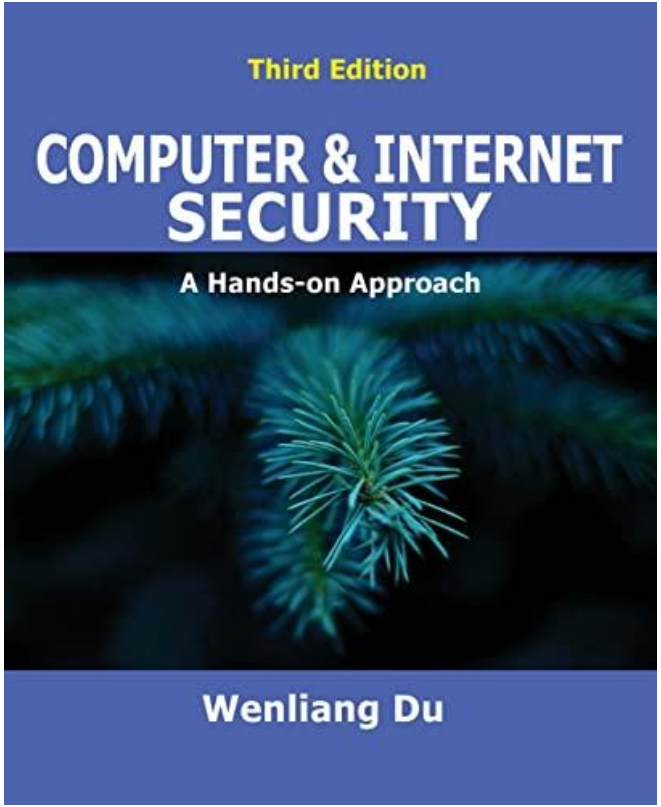
- In most universities, information security courses focus on theory and **lack hands-on experience**.
  - Because cryptography is important but it takes too much time.
  - Most teachers, like me, talk a good game.
- How about **“Computer Security”** in NTU/NTUST ?
  - It is a good course but I do not like it.
  - It focuses too much on **CTF**.
  - It is not for general students.

Prerequisite

- Before we start this course, you had better completed the following courses:
  - Programming.
  - Assembly.
  - Computer Architecture.
  - Computer Networking.
  - Introduction to information security.
- Are they all **mandatory**?
  - Well ... in this course, undoubtedly I will cover some fundamentals. However, it is impossible for me to review all of them.
  - **Actually ... I am not good at all fields ...**
  - Do not worry, you can ask all teachers in this department.

Textbook

- Computer & Internet Security: A Hands-on Approach, 3rd Edition.
- Author: Dr. Wenliang Du.
- **You do not need to buy it but it is a good book.**



SEED Labs

- https://seedsecuritylabs.org/labsetup.html
- Some Approaches:
  - Cloud.
  - Virtualbox.
  - Your own PC.
- Up to You.

Syllabus

1. Set-UID Programs.
2. Environment Variables and Attack.
3. Shellshock Attack.
4. Buffer Overflow Attack.
5. Return-to-libc Attack and ROP.
6. Format String Vulnerability.
7. Cross Site Request Forgery.
8. Cross-Site Scripting Attack.
9. SQL Injection.
10. Firewall.
11. VPN.

Score

- **Homework: 70 pts.**
- **Final: 30 pts.**
- No rolling call.
  - So there will be no penalty if you do not come to class.
- Zero-tolerance:
  - Homework delay is not acceptable unless you can provide some convincing reasons.
  - Copycat is not acceptable.

Thank You for Your Listening