Schedule and outline

Texts

- Certified Ethical Hacker (CEH) Version 10 Cert Guide, 3rd Edition (Available at safarionline) - Denoted CHE for readings below

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Week 1

- Topics:
  - Intro s1
  - Ethical Hacking s2
  - Information gathering s3
- Readings: CEH1-3
- Labs: p1

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Week 2

- Topics:
  - Vagrant & Virtualbox
  - Authentication s4
  - MFA
  - BIOMETRICS
  - Rainbow tables
  - Passwords
  - Gaining Access
    - Local password attacks
    - Privilege escalation
  - Physical Security
  - Hacking windows or linux without knowing password.
    - Rescue cd
    - Hirens
    - Reset SAM
  - Bios security
- Readings: CEH4
- Labs:
  - p2
  - p3

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Week 3

- Topics:
  - OS Security
  - Maintaining Access
    - Rootkit s5
    - Trojan and Backdoor
- Labs:
  - p4

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Week 4

- Topics:
More OS Security
C&C server
Data Hiding: \textit{s6}
Review \textit{here}

Labs:
  - \textit{p4a}

Test 1
Presentation

Week 5

Topics:
  - MITM
  - \textit{Ssh downgrade example}
  - Network attacks with SCAPY
  - replay
  - DOS

Readings:
  - \textit{Scapy slides 1}

Projects:
  - \textit{p5} (man in the middle)
  - \textit{p6}
  - \textit{p7}

Week 6

Topics:
  - More scapy
  - Malware
  - Ransomware

Readings:
  - CEH Chapter 5
  - Malware \textit{s7}
  - \textit{Ransomware}
  - \textit{Linux ransomware}

Projects:
  - \textit{p8}
  - \textit{p9}

Week 7

Topics:
  - IDS

Readings:

Projects:
  - \textit{p10}

Week 8

Topics:
  - IDS, Firewalls, and Honeypots

Readings:
  - CEH Chapter 9 - IDS, Firewalls, and Honeypots
  - \textit{s8}
  - iptables \textit{ppt more}

Projects:
Week 9

- Test 2 (Take in testing center)
- Topics:
  - Web hacking
  - Application security
- Readings:
  - Chapter 7
  - [Slides](#)
- Projects:
  - p12
- Presentations?

Week 10

Malware workshop (mar 9, 7-10pm)

- Topics:
  - Application security
  - [https://sourceforge.net/projects/mutillidae/](https://sourceforge.net/projects/mutillidae/)
- Readings:
  - [Slides](#)
  - Not required but good overview of web security [here](#)
  - injection [slides](#)
- Projects:
  - p13
- Presentations?

SPRING BREAK

Week 11 (Mar 23-27)

- Topics:
  - Application Security
  - Software Security
    - Buffer overflows
- Readings:
  - Buffer overflows
  - Overflows [slides](#)
- Video Lectures:
  - Sql Injections
  - More SQL Injections
  - Buffer overflow slides
- Presentations
  - See the presentation schedule [here](#)
- Projects:
  - p14
  - buffer overflow
Week 12 (Mar 30 - Apr 3)

- Topics:
  - wireless and mobile security
- Projects:
  - ctf
- Readings:
  - CEH Chapter 8

Week 13 (Apr 6-10)

- Topics:
  - Cryptography
  - CTF work
  - Forensics
- Readings:
  - [encryption](https://resources.infosecinstitute.com/cracking-damn-insecure-and-vulnerable-apps-diva-part-1/#gref)
  - CEH Chapter 10
- Video Lectures:
  - Encryption 1
  - Encryption 2
- Projects:
  - p15

Week 14 (Apr 13-15)

- Topics:
  - Fun random stuff?
  - [https://www.hackthis.co.uk/levels/main/4](https://www.hackthis.co.uk/levels/main/4)
- Projects:
  - p16
  - Maybe one last project
- Test 3