Schedule and outline

Texts

- Certified Ethical Hacker (CEH) Version 10 Cert Guide, 3rd Edition (available online through o’reilly books thru library.dixie.edu)

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**Week 1 (week of Jan 11)**

- Topics:
  - Intro \(s_1\)
  - Ethical Hacking \(s_2\)
  - Information gathering \(s_3\)
- Readings: CEH1-3
- Labs: \(p_1\)

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**Week 2 (week of Jan 18)**

- Topics:
  - Virtualbox review
  - Authentication \(s_4\)
  - 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:
  - \(p_2\)
  - \(p_3\)

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**Week 3 (Week of Jan 25)**

- Topics:
  - OS Security
  - Maintaining Access
    - Rootkit \(s_5\)
    - Trojan and Backdoor
- Readings: Rootkits
- Reptile rootkit setup
- Reptile rootkit Demo
- Labs:
  - \(p_4\)

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**Week 4 (Week of Feb 1)**

- Topics:
• More OS Security
• C&C server
• Powershell empire
• Data Hiding: s6
• Review here

• Labs:
  • p4a
• Test 1
• Presentation

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**Week 5 (Week of Feb 8)**

• Topics:
  • MITM
  • Ssh downgrade example
  • MITM with dns spoof
  • Network attacks with SCAPY
  • replay
  • DOS

• Readings:
  • Scapy slides 1

• Projects:
  • p5 (man in the middle)
  • p6
  • p7

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**Week 6 (Week of Feb 15)**

• Topics:
  • More scapy
  • Malware
  • Ransomware

• Readings:
  • CEH Chapter 5
  • Malware s7
  • Ransomware
  • Linux ransomware

• Projects:
  • p8
  • p9

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**Week 7 (Week of Feb 22)**

• Topics:
  • IDS

• Readings:

• Projects:
  • p10

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**Week 8 (Week of Mar 1)**

• Topics:
  • IDS, Firewalls, and Honeypots

• Readings:
  • CEH Chapter 9 - IDS, Firewalls, and Honeypots
  • s8
- Projects:
  - p11
  - Test 2 (???)

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### Spring Break (Week of Mar 8)

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### Week 9 (Week of Mar 15)

- Topics:
  - Web hacking
  - Application security
  - Proxy servers
- Readings:
  - Chapter 7
  - [Slides](slides)
  - [Proxy Slides](slides)
- Projects:
  - p12
  - p13
- Presentations?

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### Week 10 (Week of Mar 22)

- Topics:
  - Application security
  - [https://sourceforge.net/projects/mutillidae/](https://sourceforge.net/projects/mutillidae/)
  - Burpsuite
  - [Overview of burpsuite.](overview)
  - SqlInjection
- Video Lectures:
  - Sql Injections
  - More SQL Injections
- Readings:
  - Not required but good overview of web security [here](here)
  - Injection Slides
- Projects:
  - p14
- Presentations?

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### Week 11 (Week of Mar 29)

- Topics:
  - Application Security
  - Software Security
    - Buffer overflows
- Readings:
  - Buffer overflows
  - Overflows [slides](slides)
- Video Lectures:
  - Buffer overflow slides
- Presentations
  - See the presentation schedule [here](here)
- Projects:
  - CTF1
  - buffer overflow

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### Week 12 (Week of Apr 5)
• Topics:
  • wireless and mobile security
  • https://resources.infosecinstitute.com/cracking-damn-insecure-and-vulnerable-apps-diva-part-1/#gref

• Projects:
  • ctf2

• Readings:
  • CEH Chapter 8

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**Week 13 (Week of Apr 12)**

*Malware workshop April 13?*

• Topics:
  • Cryptography
  • CTF work
  • Forensics

• Readings:
  • encryption
  • CEH Chapter 10

• Video Lectures:
  • Encryption 1
  • Encryption 2

• Projects:
  • p15

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**Week 14 (Week of Apr 19)**

• Topics:
  • Fun random stuff?
  • https://jhalon.github.io/over-the-wire-leviathan/
  • https://www.hackthis.co.uk/levels/main/4

• Projects:
  • p16
  • Maybe one last project

• Test 3

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Final?