Schedule and outline

Texts

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

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**Week 1 (week of Jan 10)**

- **Topics:**
  - Syllabus
  - Intro s1
  - Ethical Hacking s2
  - Information gathering s3

- **Readings:** CEH1-3
- **Labs:** pl

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**Week 2 (week of Jan 17)**

- **Topics:**
  - Virtualbox review
  - 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 (Week of Jan 24)**

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

- **Readings:** Rootkits
- Reptile rootkit setup
- Reptile rootkit Demo
- **Labs:**
  - p4

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**Week 4 (Week of Jan 31)**
• 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 7)**

• Topics:
  • MITM
  • Ssh downgrade example
  • MITM with dns spoof
  • Network attacks with SCAPY
  • replay
  • DOS
• Readings:
  • Man in the middle
  • Scapy slides 1
• Projects:
  • p5 (man in the middle)
  • p6
  • p7

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**Week 6 (Week of Feb 14)**

• Topics:
  • More scapy
  • Malware?
  • Ransomware
• Readings:
  • CEH Chapter 5
  • FIN vs RST packets
  • Social Engineering s7
  • Ransomware
• Projects:
  • p8
  • p9

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**Week 7 (Week of Feb 21)**

No school Monday

• Topics:
  • IDS
• Readings:
• Projects:
  • p10

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**Week 8 (Week of Feb 28)**

• Topics:
  • IDS, Firewalls, and Honeypots
• Readings:
  • CEH Chapter 9 - IDS, Firewalls, and Honeypots
Projects:
- Cloud based IDS
- Test 2 (???)

**Week 9 (Week of Mar 7)**

- Topics:
  - Web hacking
  - Application security
  - Proxy servers
- Readings:
  - Chapter 7
  - Slides
  - Proxy Slides
- Projects:
  - p12
  - p13
- Presentations?

**Spring Break (Week of Mar 14)**

**Week 10 (Week of Mar 21)**

- Topics:
  - Application security
  - [https://owasp.org/www-project-mutillidae-ii/](https://owasp.org/www-project-mutillidae-ii/)
  - Burpsuite
  - SqlInjection
- Video Lectures:
  - Sql Injections
  - More SQL Injections
- Readings:
  - Injection Slides
- Projects:
  - p14
- Presentations?

**Week 11 (Week of Mar 28)**

- Topics:
  - Application Security
  - Software Security
    - Buffer overflows
- Readings:
  - Buffer overflows
  - Overflows slides
- Video Lectures:
  - Buffer overflow slides
- Projects:
  - CTF1
  - buffer overflow

**Week 12 (Week of Apr 4)**

- Topics:
- Cryptography
- CTF work
- Forensics

- Readings:
  - encryption
  - CEH Chapter 10

- Video Lectures:
  - Encryption 1
  - Encryption 2

- Projects:
  - ctf2

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**Week 13 (Week of Apr 11)**

*Malware workshop April 12*

- Topics:
  - wireless and mobile security
    - bluetooth - no audio
    - wireless
- Projects:
  - p15
- Readings:
  - CEH Chapter 8

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**Week 14 (Week of Apr 18)**

- Topics:
  - Fun random stuff?
    - https://www.hackthis.co.uk/levels/main/4

- Projects:
  - p16
  - Maybe one last project

- Test 3

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**Week 15 (Week of Apr 25)**

Final?