

**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: s6
• Review here

• Labs:
  • p4a
• Test 1
• Presentation

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**Week 5**

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

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**Week 6**

• Topics:
  • More scapy
  • Malware
  • Ransomware
• Readings:
  • CEH Chapter 5
  • Malware s7
  • Ransomware
  • Linux ransomware
• Projects:
  • p8
  • p9

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**Week 7**

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

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**Week 8**

• Topics:
  • IDS, Firewalls, and Honeypots
• Readings:
  • CEH Chapter 9 - IDS, Firewalls, and Honeypots
  • s8
  • iptables 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](http://example.com)
  - injection [slides](http://example.com)
- Projects:
  - p13
- Presentations?

Sprin Break

Week 11 (Mar 23-27)

- Topics:
  - Application Security
  - Software Security
    - Buffer overflows
- Readings:
  - Buffer overflows
  - Overflows [slides](http://example.com)
- Video Lectures:
  - Sql Injections
  - More SQL Injections
  - Buffer overflow slides
- Presentations
  - See the presentation schedule [here](http://example.com)
- 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://jhalon.github.io/over-the-wire-leviathan/)
  - [CEH Chapter 10](https://www.hackthis.co.uk/levels/main/4)
- Video Lectures:
  - [Encryption 1](https://jhalon.github.io/over-the-wire-leviathan/)
  - [Encryption 2](https://www.hackthis.co.uk/levels/main/4)
- 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