**Schedule and outline**

**Texts**

[Certified Ethical Hacker Version 9 Cert Guide] - 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
Armitage
zero day exploits
security updates and patches
Data Hiding: s6
Review here
Man in the middle project p5

Test 1
Presentation

Week 5

Topics:
- Network attacks with SCAPY
- replay
- DOS
Readings:
- Scapy slides 1
Projects:
- p6
- p7

Week 6

Topics:
- More scapy
- Malware
- Ransomware
Readings:
- CEH Chapter 5
- Ransomware
- Linux ransomware
Projects:
- p6
- p9

Week 7

Topics:
- firewalls/acls
- iptables ppt more
Readings:
Projects:
- p10
- p11

Week 8

Topics:
- Malware conclusion
- Social Engineering Toolkit
Readings:
Week 9

- Review
- Test 2
- Topics:
  - Application security
- Readings:
  - Read the section “Finding and Exploiting XSS Vulnerabilities” to the “Summary” at the end of XSS.
  - [this book](http://code.google.com/edu/security/index.html)
  - [Slides](http://code.google.com/edu/security/index.html)
- Projects:
- Presentations?

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Week 10

- Topics:
  - Application security
  - [https://sourceforge.net/projects/mutillidae/](https://sourceforge.net/projects/mutillidae/)
- Readings:
  - Not required but good overview of web security [here](https://sourceforge.net/projects/mutillidae/)
  - injection [slides](https://sourceforge.net/projects/mutillidae/)
- Projects:
  - [p12](https://sourceforge.net/projects/mutillidae/)
- Presentations?

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Week 11

- Topics:
- Projects:
  - [p13](https://sourceforge.net/projects/mutillidae/)
  - [ctf](https://sourceforge.net/projects/mutillidae/)
- Topics:
  - Application Security
  - Software Security
    - Buffer overflows
      - [demo](https://sourceforge.net/projects/mutillidae/)
    - Database injections
    - Jails, Containers
- Readings:
  - [Buffer overflows](https://sourceforge.net/projects/mutillidae/)
  - Overflows [slides](https://sourceforge.net/projects/mutillidae/)
- Presentations?

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Week 12
• Topics:
  ◦ honeypots
  ◦ honeynets
  ◦ wireless and mobile security
• Projects:
  ◦ p14
• Readings:
  ◦ CEH Chapter 8
  ◦ CEH Chapter 9

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**Week 13**

• Topics:
  ◦ Cryptography
  ◦ CTF work
  ◦ Forensics
• Projects:
  ◦ p15
• Readings:
  ◦ encryption
  ◦ CEH Chapter 12

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**Week 14**

• Topics:
  ◦ CTF presentations

Thanksgiving

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**Week 15**

• Topics:
  ◦ More CTF
  ◦ Fun random stuff?
  ◦ https://jhalon.github.io/over-the-wire-leviathan/
  ◦ https://www.hackthis.co.uk/levels/main/4
• Test 3