

CIS 284EH : ETHICAL HACKING

Transcript title

Ethical Hacking

Credits

4

Grading mode

Standard letter grades

Total contact hours

50

Lecture hours

30

Other hours

20

Prerequisites

CIS 279L.

Recommended preparation

CIS 151C, CIS 152C.

Course Description

Preparation in network penetration testing methodologies in order to help businesses discover and mitigate security weaknesses, using the Linux and Windows operating systems . Learn security related topics such as: firewalls, intrusion detection systems, vulnerability scanners, packet sniffing, port scanning, cryptography, log analysis, web application attacks, exploitation tools, scripting languages, the Metasploit framework, VPNs, SSL, port redirection, security policies, compliance regulations, and professional code of conduct.

Course learning outcomes

1. Identify important network information using a packet sniffer.
2. Execute a network port scan and identify potential network vulnerabilities.
3. Execute a vulnerability scan to create a vulnerability assessment.
4. Analyze traffic logs using an intrusion detection system.
5. Analyze firewall logs using a customized firewall.
6. Execute a variety of web application attacks including SQL injection and cross site scripting.
7. Execute dictionary and brute force password attacks.
8. Execute exploits and deliver payloads to targeted computers using the Metasploit framework.
9. Execute an SSH port tunnel to send encrypted data over the network.

Content outline

- Essential Knowledge + Lab Activity
- Reconnaissance: Scanning and Enumeration + Lab Activity
- Sniffing and Evasion + Lab Activity
- Attacking a System + Lab Activity

- Web-based Hacking + Lab Activity
- Wireless Hacking + Lab Activity
- Security in the Cloud + Lab Activity
- Trojans + Lab Activity
- Cryptography + Lab Activity
- Social Engineering + Lab Activity

Required materials

Each student will need a personal computer and internet connection for completing assignments (prefer a computer with a quad-core processor, 8 gigabytes or more of RAM memory, and at least 100 gigabytes of available hard drive storage)