



SCHOOL OF STEM SYLLABUS



TERM:	INSTRUCTOR:
COURSE CODE: CSC 245	OFFICE HOURS:
COURSE TITLE: Ethical Hacking	OFFICE LOCATION:
DAY(S) AND TIME(S):	EMAIL:
LOCATION:	PHONE:

COURSE PREREQUISITE: Complete TAKE MAT-110 MAT-111 MAT-112 MAT-211 MAT-212 or MAT-215. Complete CSC-230 or CSC-240.

CREDITS: 3

COURSE DESCRIPTION: This course provides students with the skills and knowledge required in the field of ethical hacking. Lecture topics introduce the concepts of security testing and network defense/countermeasures against vulnerabilities in networks and incident-handling-methods used when information security is compromised. Students learn how hackers compromise systems and remove their footprints. The laboratory portion of the course reinforces topics covered in lecture by enabling students to learn how to protect networks and systems by using methods learned in class. This course prepares students to take and pass the Ethical Hacking Certificate, which is recognized by industry and sponsored by the Ethical Hacking Console (EC).

STUDENT LEARNING OUTCOMES:

Upon successful course completion, students will be able to:

1. Identify the elements of cyber-attack such as denial of service, buffer overflow, and programming exploits.
2. Demonstrate ethical hacking and penetration techniques such as reconnaissance, spooling, password cracking, operating system vulnerabilities and more.
3. Evaluate hacking and penetration testing from the point view of ethics and legality.
4. Analyze network traffic and sniffing using proprietary tools.
5. Implement security countermeasures for various types of cyberattacks.
6. Analyze how port scanning and fingerprinting are used by hackers.

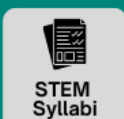
TEXTBOOK AND SUPPLEMENTAL MATERIALS:

- a) Required: Certified Ethical Hacker Version 10.0 Study Guide, Sean-Philip Oriyano. Publisher: Wiley
- b) Recommended and optional: Hacking the Hacker, Roger A. Grimes.

Publisher: Wiley

STEM STUDENT HUB

Information & Resources tailored towards students taking any STEM courses



GRADING POLICY:

- Student will be graded based on:
- Exam I (Lecture) 15%
- Exam II (Lecture) 15%
- Exam III/Final Exam (Lecture) 15%
- Weekly Labs and Lab Exams 30%
- Research Article Presentation: 15%.
- Homework assignments and collaborative work: 10%

SAMPLE COURSE SCHEDULE:

Session/week	Topic to be covered	Lab of the Unit/Week
1	Chapter 1 What is Ethical hacking	Syllabus and course mechanics and course mechanics an overall concept of Ethical Hacking
2	Chapter 2 Networking Foundation	Lab 1.Perf Reconnaissance from WAN
3	Chapter 3 Security Foundations	Lab 2- Scanning Network on the LAN
4	Chapter 4 Foot printing and reconnaissance	Lab 3- Enumeration Hosts
5	Chapter5 Scanning Networks	Lab 5- Dark Comet RAT
6	Chapter6 Enumeration and System Hacking	
7	Exam I and Lab Exam I	
8	Chapter 8 Malware Threats	6- Network Traffic with Sniffer
9	Chapter 9 Sniffing	7- Using Soc Engineering Toolkit

10	Chapter10 Social Engineering	8- Denial of Service Attack WAN
11	Chapter 7 System Hacking	
12	lab	10- Attack Webservers from WAN
13	Chapter 11 Wireless security	
14	Chapter 12 Attack and defense	11- Exploit Web Application
15	Exam II (Final exam)	

HCCC POLICIES, STATEMENTS, AND SERVICES:

<https://www.hccc.edu/administration/academic-affairs/syllabus-addendum.html>



