

Hagerstown Community College
OFFICIAL MASTER SYLLABUS DOCUMENT

COURSE: CYB-240, Ethical Hacking Fundamentals: 3 credits

INSTRUCTOR:

SEMESTER/YEAR: Spring 2018

COURSE DESCRIPTION: In this course students will become familiar with offensive network security, ethical hacking and responsibility and network defense and counter measures. Student will study testing, scanning and securing information systems. Topics include hacker methodology and tools, how they operate and how to set up strong countermeasures and defensive systems to protect an organization's critical infrastructure and information. Prerequisite: IST-154 Networking Basics and CYB-210 Ethics and the Information Age. Semesters offered: Fall. 3 credits.

TEXTBOOKS:

Ethical Hacking and Systems Defense: National CyberWatch Center Edition, Sean-Philip Oriyano, ISBN: 9781284239652, ebook

National Cyber League - \$25 fee, register at or purchase though bookstore:
<http://www.nationalcyberleague.org/registration.shtml>

STUDENT LEARNING OUTCOMES:

- Think critically
- Communicate effectively with both verbal and written forms
- Identify the steps of the hacker methodology
- List and describe the current threats to computer systems and network.
- Perform and share cooperatively in team projects
- Evaluate and implement new and future technologies into current system
- Install, configure, use and manage hacking software on a closed network environment
- Evaluate best practices in security concepts to maintain confidentiality, integrity and availability of computer systems
- Use a network monitoring tool
- Use a network mapping tool
- Describe potential system attacks and the actors that might perform them
- Describe cyber defense tools, methods and components
- Describe appropriate measures to be taken should a system compromise occur.
- Identify the bad actors in cyberspace and compare and contrast their resources, capabilities/techniques, motivations, aversion to risk
- Describe different types of attacks and their characteristics
- Examine the architecture of a typical, complex system and identify significant vulnerabilities, risks, and points at which specific security technologies/methods should be employed

TOTAL HOURS OF COURSEWORK:

To earn one academic credit at HCC, students are required to complete a minimum of 37.5 clock hours (45 fifty-minute “academic” hours) of coursework per semester. Those hours of coursework may be completed through a combination of hours within the classroom and hours outside the classroom. Certain courses may require more than the 37.5 minimum hours of coursework per credit. For most classes, students should expect to do at least 2 hours of coursework outside of class for each hour of in-class coursework.

Hybrid class

Hours Required	Topic
25	Reading of textbook (14 Chapters)
14	Quizzes (14)
8	Final exam and preparation
26	Labs and Exercises (13)
30	National Cyber League Competition
15	Discussions

Services for Students with Disabilities: Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at dss@hagerstowncc.edu or at 240-500-2530