

Cape Cod Community College

Curriculum and Programs

Departmental Syllabus

Prepared by the Department of Business

Date of Departmental Approval: October 5, 2015

Date approved by Curriculum and Programs: November 13, 2015

Effective: Fall 2016

1. **Course Number:** BIT241

Course Title: IT: Ethical Hacking

2. **Description:** This course includes all aspects of ethical hacking and information systems security auditing programs. The course focuses on the latest security threats, advanced attack vectors, and supplements all learning information with practical hands on demonstrations of the latest hacking techniques, methodologies, tools, tricks and security measures. Students scan, test, hack and secure their own systems. Topics include Intrusion Detection, Policy Creation, Social Engineering, DDOS Attacks, Buffer Overflow and Virus Creation. This course helps prepare students to take the CEH certification. Prior to starting the course, students are required to sign an agreement stating all knowledge learned in this course will not be used for illegal or malicious purposes.

3. **Student Learning Outcomes** (instructional objectives, intellectual skills):

Upon successful completion of this course, students are able to do the following

- Demonstrate knowledge of information security threats, attack vectors and hacking concepts
- Exhibit proficiency in mitigating types of Trojans, viruses, worms, and malware.
- Use countermeasures to defend against packet sniffing, and social engineering techniques.
- Implement tools in order to discover and secure DoS/DDoS, botnets, and session hijacking attacks.
- Apply different security methodologies for webserver attacks, web application attacks, and SQL injection.
- Present techniques to reduce vulnerabilities in wireless encryption and mobile platform attack vectors.
- Apply different Firewall, IDS and honeypot evasions techniques.
- Practice various types of buffer overflows and cryptography ciphers.

4. **Credit(s):** 3 credits

5. **Satisfies General Education Requirement:** No

6. **Prerequisite(s):** BIT240 IT: Security+ (or a Security+ Certification) and Co-requisite BIT116 Linux (or a Linux Certification) Certifications must have been earned within the past 5 years

7. **Semester(s) Offered:** Varies

8. **Suggested Guidelines for Evaluation:** hands on labs, quizzes, midterm, final

9. **General Topical Outline** (Optional):