

# Cape Cod Community College

## Curriculum and Programs

### Departmental Syllabus

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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:** BIT 242

**Course Title:** IT: Advanced Ethical Hacking I

2. **Description:** This is the first in a series of two courses that teach students to comprehend the creation of sophisticated attacks, discover vulnerabilities and formulate exploits for fully patched, fully hardened systems (also known as penetration testing). Students learn to discover 0day exploits. Students discover a working exploit for Microsoft Windows and Linux vulnerabilities as well as begin to reverse engineer a Windows Binary. This course begins to prepare students to take the CEPT (Certified Expert Penetration Tester) and the ECSA (EC-Council Certified Security Analyst certification). To fully prepare for these certifications, both BIT242 and BIT243 must be completed successfully. 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

- Exhibit proficiency in writing Windows, Linux and Unix shellcode.
- Analyze penetration testing against various cryptographic implementations.
- Escape Linux and Windows restricted environments.
- Utilize well known utilities for penetration testing and packet crafting.
- Identify network and application fuzzing.

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

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

**Prerequisite(s):** BIT241 IT: Ethical Hacking (or a CEH Certified Ethical Hacker Certification) Certification must have been earned within the past 5 years

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

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

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