

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:** BIT245

Course Title: IT Security: Penetration Testing

2. **Description:** This course provides students with hands-on experience and knowledge of the most prominent attack vectors. Students mimic the skills of an advanced hacker in order to find and protect network and system flaws. This course completes the preparation for students to take the CEPT (Certified Expert Penetration Tester) certification exam. 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 penetration testing methodologies
- Write stack buffer overflows and discover memory corruption/buffer overflow vulnerabilities
- Incorporate skills used in the Reverse Engineering course
- Write Windows, Linux and Unix shellcode
- Create exploits on Windows or Linux/Unix architecture
- Utilize network reconnaissance to simulate a blue print of the network planned for attack

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

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

6. **Prerequisite(s):** BIT244 Security: Reverse Engineering (or the CREA Certified Reverse Engineering Analyst 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):