Informatics Syllabi   NJIT Syllabi

Fall 2019

IT 430-001: Ethical Hacking for Administrators

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IT 430 Ethical Hacking for Administrators

Syllabus (common)

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Office hours: Posted on Moodle

Text: Weidman, Penetration Testing: A Hands-On Introduction to Hacking, No Starch Press, 2014
ISBN: 978-1593275648

Schedule: Section 001 - Tuesday, Thursday 1:00 pm – 2:20 pm, GITC 1202
Section 003 - Monday, Thursday 4:00 pm – 5:20 pm, GITC 1202

Course Description

This course will explore the various means that an intruder has available to gain access to computer resources. We will investigate weaknesses by discussing the theoretical background behind, and whenever possible, actually performing the attack. We will then discuss methods to prevent/reduce the vulnerability.

What is ethical hacking? The threat to systems is one that is continuously changing and evolving. It is not sufficient that a System Administrator harden a system based upon the threats that are currently known. Typically, one must think out of the box with the mentality that in order to catch a thief, you need to think like a thief. The goal of the ethical hacker is to help the organization take preemptive measures against malicious attacks by attacking the system himself; all the while staying within **legal limits**.

The quote the certification guide, an Ethical Hacker is an individual who is usually employed with the organization and who can be trusted to undertake an attempt to penetrate networks and/or computer systems using the same methods as a Hacker. **Hacking is a felony in the United States and most other countries**. Only when it is done by **request** and under a **contract** between an Ethical Hacker and an organization, it is considered legal. The most important point is that an Ethical Hacker **has authorization** to probe or attack the target.   Illegal or unethical use of the techniques discussed in class will result in immediate dismissal from the course and potentially other consequences.

Prerequisites

IT 340
Please do not take this course if you have not already successfully completed IT 340. You will not have the prerequisite knowledge needed for this course.

Grading:

Homework/Quizzes	30%
Project	15%
Midterm	20%
Final Exam	35%

Grades will be computed on a straight scale out of 100 possible points: 90-100=A, 87-89=B+, 80-86=B, etc.

Course Computing Requirements

You must have access to, and administrative rights on, a computer that meets the NJIT minimum baseline computer system standards. You can find a listing of the minimum computing requirements at https://ist.njit.edu/fall-2019-recommended-specs/

We will be using vCloud, a cloud based virtualization service, to run virtual instances of various operating systems. We will cover your home PC setup during the first week lab. Additionally, the campus VPN software will need to be installed to access vCloud from off-campus. You can find instructions on how to do this on the IST web site:

Please note that students are responsible for the administration/maintenance of their own computer. This includes any software loaded onto it for this course. While I will provide help with problems when I have time available, responsibility for resolving problems remains with the student.

Lectures

I tend to use PowerPoint slides for the main points in my presentations, augmented with board-work when necessary. You can find a copy of the slides that I'll use on the course Moodle board at:

http://moodle.njit.edu

You'll need your UCID and password to login. There is a tutorial on the login screen that you should use if this is your first experience with Moodle.

Homework/Quizzes

I will assign homework weekly based on the lab assignments. You'll use your vCloud instances to complete the assignments (please see computing requirements above). Quizzes will be given at various times during the course through Moodle.

Project

There will be an individual semester long project that involves writing a test report based on the evaluations that will do during the course. Details will be given following our discussion on Testing Report formats.

Assessment

The midterm and final will constitute a significant portion of your overall grade. Exam dates and times are listed in the syllabus schedule. The exams will contain information from the text, as well as lectures and labs. The final will be cumulative.

If you miss an exam, the Dean of Students will validate your emergency and will contact me regarding rescheduling. If you have a schedule conflict that will cause you to miss an exam, please inform me immediately so that we can arrange an alternate date for you to complete the test.

Academic Policies

I will accept work that is late, but the grade will be modified based on the following matrix:

<div align="center">

0 to 24 hours = -10 points
1 to 2 days = -20 points
2 to 3 days = -30 points
3 to 4 days = -40 points

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Work submitted more than 4 days late will not receive credit. The timestamp in Moodle determines when a work was uploaded. If you have an emergency that causes you to miss an assignment, please contact the Office of the Dean of Students.

I do not offer 'extra credit' assignments. Every student has an equal opportunity to earn the grade they'd like in the course. The overall point spread is broad enough that doing poorly on a single assignment or quiz should not significantly affect your grade.

I do not curve individual assignments. If, at the end of the course I determine that a curve is justified, then I will curve ALL final grades (either positively or negatively) equally. Grading scales are applied consistently across the entire class - no exceptions.

Academic Integrity

Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at:

http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. **Any student found in violation of the code by cheating, plagiarizing or using**

any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu