

# **CSS-205 – Essentials of Network Penetration Testing**

## **Course Syllabus**

### **Course Code:**

CSS-205

### **Course Title:**

Essentials of Network Penetration Testing

### **Course Description:**

In this course; students are introduced to the techniques of network penetration testing using open source tools. Through various hands-on exercises; the student will be introduced to the concepts; techniques; tools and methodologies for evaluating and auditing network vulnerabilities and properly securing networks from attack. Students are expected to have knowledge of Linux; Windows; working at the command line of any Operating System and networking.

### **Prerequisites:**

Academic Reading and Writing Levels of 6; Academic Math Level 1; CSS 200 minimum grade C; may enroll concurrently

### **Outcomes and Objectives:**

[Please refer to the CSS-205 Master Syllabus](#)

### **Required Text and Materials:**

Please confirm edition with [WCC Website](#) or go to the WCC Bookstore and use the Find the Course Materials feature to view the required and recommended course materials: <https://washtenaw.bncollege.com/course-material/course-finder>

- [Kali Linux 2018 – Assuring Security by Penetration Testing, Fourth Edition](#). April 2018, Packt Publishing Limited. ISBN 978-1-78934-176-8
- NetLabs Online Access (Provided by WCC)
- LinkedIn Learning Online Access (Provided by WCC)

### **Course Overview and Structure:**

#### **Time Commitment**

To meet the due dates on the schedule, expect to spend 9 - 12 hours per week for this 4-credit course.

#### **Grading**

- Grades are posted in Blackboard under My Grades.
- Grading is typically completed within a week of the assignment due date.

#### **Determining Your Grade**

##### **[Labs](#)**

Labs will be done in NetLab+. What is NETLAB+? It is a virtual machine environment that allows each student to have a sandbox to play in that includes

both the attacker and target machines. These machines are reset after each use which is both good and bad. If you think you have done something that has locked up the machine you can simply reset the machine in question.

For each lab assigned, you will be required to complete the lab activity in the NetLab+ environment, take a screenshot in Netlab+ upon completion and submit a lab report using Blackboard.

If you do not complete the activity in Netlab+, you will receive a 0 for the assignment. Please be sure that you are documenting your lab activity based on the submission instructions. (This is also important in preparing your final Penetration Testing report for the class.) Before you exit Netlabs, you must take a screenshot after you have completed the last activity in the lab. To take a screenshot, select the drop-down arrow to the right of the last machine you used and click on the Take Screenshot option.

**NetLab+ Submission Instructions:** After you complete the lab in Netlab+, you will need to complete the NetLab+ Report in Blackboard (set up as a quiz for submission purposes). This report will provide content for your final Pen Testing report.

As you complete the labs, consider how the tool/process could be used for an actual pentest). The NetLab report consists of the following prompts:

1. How long did it take you to complete this lab? (This will be verified against your NetLab+ reservation)
2. What did the lab demonstrate?
3. What vulnerabilities were discussed/discovered during the lab? If the lab only demonstrated a tool - what would that tool help accomplish with respect to security? What vulnerabilities is the lab addressing?
4. How can the vulnerability be mitigated? What recommendations would you have for your customer to reduce the threat?

While you are working through the lab, you will want to document the answers to these questions.

### ***Written Assignments***

You will be completing written assignments that align with the steps that a penetration tester should follow when completing a test. There are three written assignments: 1) Pre-Engagement Plan, 2) Recon & Report and 3) Network Penetration Report.

### ***Discussion Board***

There are three discussion board prompts that are required for the class. You are required to post a response to the prompt and respond to at least two other students' responses.

### ***Quizzes***

There is one quiz for most modules which covers the information from that module (including reading, videos and labs). These quizzes may consist of true/false and multiple-choice questions. You will be allowed two (2) attempts. Your highest score will be saved as your final score. Once you start the quiz, you will be required to complete it in one sitting. You will have 45 minutes to complete each quiz. After you have finished the quiz only the score will be shown. After the deadline to take the

quiz has passed, all questions, the answers that you submitted, and the correct answers will be available for you to view. You can then review the quizzes to prepare for the unit exams.

### ***Final Exam***

In addition to the three written reports for the class, you will also complete a Final Concepts Exam in a proctored environment. You will have one attempt. It is a closed book/closed note exam. Resources are not allowed.

Graded Items	Points	Total Points
NetLabs (20)	10	200
Course Orientation Quiz (1)	12	12
Module Quizzes (7)	15	105
Discussion Board Posts (4)	16	64
Activities (2)	5	10
Reporting & Documentation		
Assignments: Pre-Engagement Plan	57	57
Recon & Report	45	45
Pen Testing Report	106	106
Final Objective Exam	178	178
	<b>TOTAL</b>	<b>792</b>

### ***Course Deadlines***

All course work is due on Wednesdays at 11:59 PM Eastern Time.

### ***Late Assignments***

All assignments are required to be submitted by the due date. In extenuating circumstances, I may allow you submit work after the due date, as long as you notify me before the due date of that assignment.

## **Communication**

### ***Email Communication***

- Please send emails from your WCC account to follow [federal privacy regulations](#).
- Provide a clear subject line that includes the name of the course (i.e. CSS 205)
- Always include your first and last name in the email message.

### ***Expectations and Availability of Instructor***

I will respond to email within 24 – 48 hours. You should make a habit of checking on a regular basis as well. All assignments are due on Wednesdays at 11:59 p.m. Do not email me with a question just before an assignment is due as you probably will not get a response in time. Plan ahead!

## **Course Policies:**

- All assignments, quizzes and exams are due on their scheduled due date. Very limited exceptions are available based on circumstance and instructor approval.
- Activities such as the number or type of assignments or exams may change without prior notice to the student.
- The student must take responsibility for withdrawal from the class in the event a withdrawal is necessary.
- In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to "reasonable accommodations." If any accommodations are needed for this course, please inform me and make an appointment with a counselor in the Learning Support Services @ 734-973-3342, room LA104. The counselor will verify the disability and arrange accommodations. See information in the section titled Accommodations for more information.
- At all times the student must be respectful of the instructor and other students, and not engage in any activity that is disruptive to the learning of other students in the class.
- If you have any questions about a student score or grade, please email or set a meeting with the instructor during posted office hours.
- A 'W' grade (withdrawal) will not be issued after the WCC withdrawal deadline for the class unless extenuating circumstances exist. Please contact the instructor in this situation.

## **Academic Integrity:**

Plagiarism and other forms of academic dishonesty will result in discipline according to the [WCC Student Rights & Responsibility guidelines](#). Always complete your own work using your own words. If you do use information, ideas, or words from other sources, credit that source using MLA or APA format.

## **Accommodation of Special Needs:**

[Learning Support Services Department](#) provides support to students who may need accommodation for documented disabilities, or other learning need. WCC will work with you to accommodate any of your individual learning needs, however, I need to know of any requests in advance in order to make the necessary arrangements.

## **WCC Student Policies and Support Information:**

Review the material within the Washtenaw Community College Student Policies and Support Information for additional policies and procedures that affect you and your course. Find this information [on this shared page](#).