Ethical Hacking and Network Defense  
CIS346 | 3.0 Credit Hours | Spring 2020  
**Instructor:** Nick Sturgeon

**Office Hours:** *(please make an appt. with me via email)*

**Email:** nsturgeon@usi.edu

**Phone:** 317-379-9215

**Course Description**

An intermediate level course providing comprehensive insights and practical training into security\penetration testing field.

**Prerequisites:** Undergraduate level **CIS 345**, Minimum Grade of D

**Course Learning Objectives**

Upon completion of this course, you should be able to:

- Understand the legal guidelines and implications of ethical hacking.
- Be able to identify, describe, and recommend tools and best practices related to network defense.
- Understand and quantify risks related to information security and describe opportunities for mitigation of those risks.
- Demonstrate the basic uses of the applications and tools used in ethical hacking and network defense.

**Communication Guidelines**

- **Netiquette**
  
  All class communications and interactions with other students and the professor should follow common social standards for respect and courtesy. Learn about the [USI Netiquette Guidelines for Online Students](#) so that you can get the most out of your class.

- **Communication Expectation**

  There are several methods of communication, which you will find useful when you have questions or other communication needs concerning this course.

  - **Appointments:** I am always happy to meet and talk with you ‘one on one’. Please use email to set up an appointment to be sure we are both in the same place at the same time.

  - **Email:** I check emails periodically throughout the day and respond as soon as I have all information required to do so. Due to FERPA compliance requirements, you must use your USI email for communications regarding this course.

  - **Discussion Board:** The primary purpose of the discussion board is for communication with your classmates. I will check the discussion board periodically and offer help there if it is appropriate, but I will not check this as frequently as I do my email. Please use this to refer to or get help from the class as a whole.
Grades for your submissions will be posted in Blackboard as soon as I am able to complete evaluations of your work.

**Blackboard Course Site Overview**

- The Blackboard site for this course is set up in a way to make the deliverables of this course as straightforward as possible. You will see a ‘Start Here’ menu item, which gives you access to all the preliminary information you will need to get started with the course.

- You will have a ‘Modules’ menu item which is used to organize content and deliverables that are not in MindTap.

- You will also see a menu item for ‘Mindtap’. This takes you to online content (e-book) and learning assessments which will be required for this course. Mindtap is set up in ‘units’ which correspond to the material covered in the text. Grades from activities that are performed in Mindtap will show up in your Blackboard grade book.

- The InfoSec Learning Labs menu item will be available to you. These labs will simulate a network environment. This tool will be used to assess the practical\hands on skills taught in this course. These assessments are required for this course. Grades from these activities will show up in your Blackboard grade book.

- VoiceThread videos are used to deliver instructional content for this course. If you are having trouble with VoiceThread videos or assignments, please check the online learning resources [https://www.usi.edu/onlinelearning/students/voicethread/](https://www.usi.edu/onlinelearning/students/voicethread/) or contact the USI helpdesk [http://www.usi.edu/it/help-desk](http://www.usi.edu/it/help-desk).

- A link to Zoom, a web-based conference tool will be located in Blackboard. Zoom will be used for the weekly question and answer sessions.

- There are other links below to help you with IT issues or operational policies. Please make a note of these.

**Course Requirements**

- **Textbooks and/or Course Materials**
  


- **Technical Requirements**
  
  - Technical requirements are also listed in the textbook. All specs are minimum
  
  - A **Reliable Computer**: a dedicated computer with an updated operating system. For this course, you will need access to a computer running a Microsoft Windows operating system. Preferably Windows 7 or later. If you are unable to provide one for yourself but do have access to the USI campus for the duration of this course, you may use the lab computers in the business college or the library.

    - **Video Card**: 512MB video RAM
- **Processor**: 1.5GHz 32 or 64 Bit
- **Memory**: 4GB or 6GB if running in a virtual environment
- **Network**: Ethernet or Wireless
- **Accessories**: Mouse and Keyboard
- **Video Player**: Will need a video player that is .mov and .mp4 compatible
  - **High-Speed Internet Connection**: (e.g. DSL or Cable). When working online, students are required to have a stable high-speed Internet connection. A wired Internet connection is recommended for online meeting, exams, and assignment submission.
  - **Office 365** (USI login needed) & **Adobe Acrobat Reader** installed.
  - **Supported Web Browser**: **Firefox**, **Google Chrome**, or **Safari**. It is recommended that you use Chrome from the Infosec Learning Labs
  - **USB Drive**: Is needed to create a bootable drive for Kali Linux.
  - **Kali Linux**: A copy of Kali Linux is included with the textbook.

**Minimum Technical Skills**

To successfully navigate and perform in this course you should be able to:
- Use a MS Windows computer
- Install software on a MS Windows computer
- Navigate Blackboard
- Have a basic understanding of computer networking technology

**Assessments**
- VoiceThread Videos – 3 points per video
  - This point value is intentionally small. It is more intended to motivate you to watch the videos than anything else. They will add up over the course of the semester but should not hurt your grade if you miss a few of them. Watch the videos anyway, they are designed to help your understanding!
- InfoSec Lap Practical exercises – variable point values
- MINDTAP Labs, Quizzes, and Essays – variable points
- Exams – 150 points each – there will be three exams

**Grading Scale**

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
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<tr>
<td>B+</td>
<td>86-89.9%</td>
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<tr>
<td>B</td>
<td>80-85.9%</td>
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<tr>
<td>C+</td>
<td>76-79.9%</td>
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<tr>
<td>C</td>
<td>70-75.9%</td>
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<tr>
<td>D+</td>
<td>66-69.9%</td>
</tr>
<tr>
<td>D</td>
<td>60-65.9%</td>
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<tr>
<td>F</td>
<td>Below 60%</td>
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</tbody>
</table>

**Course & University Policies**

**Late Assignment Policy**

Late assignments are NOT accepted for any reason. To keep things fair to everyone, you are all given the same amount of time to complete and submit assignments. Due to the accelerated nature of this course,
deliverables will be due every few days. To be successful in your efforts with this course, it will be imperative that you keep pace with the schedule.

**Academic Integrity**
Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty including, but not limited to, plagiarism and/or cheating on an examination will be subject to disciplinary action. For more information, please visit [http://www.usi.edu/media/5599778/academic-integrity-policies-and-procedures-fall-2016.pdf](http://www.usi.edu/media/5599778/academic-integrity-policies-and-procedures-fall-2016.pdf).

**Diversity Issues**
The pursuit of an intellectually open setting for class discussions is one of the goals of the course. Students should feel free to articulate respectfully different perceptions of the social world; however, belittling, abusive, and discriminatory language will not be tolerated under any circumstances. For more information, please visit [http://www.usi.edu/policies/handbook/civil-rights-sexual-misconduct](http://www.usi.edu/policies/handbook/civil-rights-sexual-misconduct).

**Disability Statement**
If you have a disability for which you may require academic accommodations for this class, please contact Disability Resources at 812-464-1961 or email Ronda Stone at rstone@usi.edu as soon as possible. Students who are approved for accommodations by Disability Resources should request their accommodation letter be sent to their online instructors. Due to the nature of online courses, some accommodations approved for on campus courses may not apply. Please discuss this with Disability Resources to clarify as needed.

Students who receive an accommodation letter from Disability Resources are encouraged to discuss the provisions of those accommodations with their professors before or during the first week of the semester. If you will be in an internship, field, clinical, student teaching, or other off-campus setting this semester please note that approved academic accommodations may not apply. Please contact Disability Resources as soon as possible to discuss accommodations needed for access while in this setting. For more information, please visit the Disability Resources website at [www.usi.edu/disabilities](http://www.usi.edu/disabilities).

**Class Withdrawal & Incomplete Policy**
It is the student’s responsibility to officially drop/withdraw from any courses before the deadline. The university does not withdraw students from any classes. Please refer to the USI Academic Calendar ([https://www.usi.edu/registrar/academic-calendar](https://www.usi.edu/registrar/academic-calendar)) for specific dates. For more information, please visit [https://www.usi.edu/registrar/schedule-changes/](https://www.usi.edu/registrar/schedule-changes/).

Under special circumstances, students may petition for an incomplete grade. However, it is up to the course instructor to decide if an incomplete will be granted. Students receiving an incomplete grade will need to complete all course requirements by the agreed deadline to avoid an “F” grade.

**Title IX, Sexual Assault and Gender Violence Policy**
USI does not tolerate acts of sexual misconduct, including sexual harassment and all forms of sexual violence. If you have experienced sexual misconduct, or know someone who has, the University can help. It is important to know that federal regulations and University policy require faculty to promptly report incidences of potential sexual misconduct known to them to the Title IX Coordinator to ensure that appropriate measures are taken and resources are made available. The University will work with you to protect your privacy by sharing information with only those who need to know to ensure we can respond and assist. If you are seeking help and would like to speak to someone confidentially, you can make an appointment with a counselor in the
University Counseling Center. Find more information about sexual violence, including campus and community resources at [www.usi.edu/stopsexualassault](http://www.usi.edu/stopsexualassault)

**Technical Support**

**Help Desk Support**
Since your professors are not trained as technology experts, they will not be able to assist you with your technical needs. Please contact the Help Desk at (812) 465-1080 or send an email to it@usi.edu for technical support. To learn more about the USI helpdesk, please visit [http://www.usi.edu/it/help-desk](http://www.usi.edu/it/help-desk)

- **Blackboard Support**
  If you would like to speak to a support technician, you can call (812) 465-1080 during normal USI business hours (8am-4:30pm, Monday-Friday). Click on the following link for more FAQ about Blackboard [http://www.usi.edu/it/blackboard-online-help/faq-for-students](http://www.usi.edu/it/blackboard-online-help/faq-for-students).

  - **InfoSec Learning**

**Privacy Policies & Accessibility Statements**
For detailed information about the privacy policies and accessibility statements of the course technologies, please visit [http://usi.edu/onlinelearning/students/support-services/](http://usi.edu/onlinelearning/students/support-services/)

**Academic Support Services**

- **The Writing Lab**
The Writers' Room serves as a resource for undergraduate writers by providing assistance from peer writing consultants, a comfortable writing environment, and reference materials. [http://www.usi.edu/university-division/academic-skills/tutoring/writers-room](http://www.usi.edu/university-division/academic-skills/tutoring/writers-room)

- **How to Cite Sources (APA, MLA, Chicago, Turabian, etc.)**
  [http://usi.libguides.com/citationsources](http://usi.libguides.com/citationsources)

- **David L. Rice Library Assistance**
  [http://www.usi.edu/library/services-for-students](http://www.usi.edu/library/services-for-students)

- **Research Guides**
  Research assistance, subject guides, and useful resources compiled by your friendly librarians. [http://usi.libguides.com/](http://usi.libguides.com/)

- **Counseling Center**
The Counseling Center is open every Monday through Friday from 8:00 am to 4:30 pm. You’ll find the Counseling Center in the Orr Center, Room 1051; their phone number is 812/464-1867 [http://www.usi.edu/counselingcenter/](http://www.usi.edu/counselingcenter/)

- **Disability, and ADA Support**
  [http://www.usi.edu/university-division/disabilities](http://www.usi.edu/university-division/disabilities)

- **Student Grievances**
  [https://www.usi.edu/media/3402299/Grievance-and-Complaints-Procedures.pdf](https://www.usi.edu/media/3402299/Grievance-and-Complaints-Procedures.pdf)

- **Additional Student Resources**
The university provides a comprehensive range of support services and activities for students. Please refer to http://www.usi.edu/students/ for detailed information regarding academic advising, registration, financial aid, student affairs, counseling, career services, etc.

- **University Health Center**- The University Health Center is a full-service clinic offering medical services and health-related information to students, faculty, and staff. It is located in the lower level of the Health Professions Center and is open Monday through Friday, 8 am to 4:30 pm. Click on this link to learn more about the Health Services offered at USI, or to make an appointment, please call 812/465-1250. [http://www.usi.edu/healthcenter](http://www.usi.edu/healthcenter).

- **Financial Aid Office**- Information about current or future financial aid (including the implications of withdrawal from courses) can be obtained from the University Financial Aid Office. The office open is every Monday through Friday from 8:00 am to 4:30 pm; phone 812/464-1767, or email them at finaid@usi.edu
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<tr>
<th>Day</th>
<th>Event</th>
<th>Chapters</th>
<th>Deliverables Due</th>
<th>Topics</th>
<th>Important Notes</th>
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<tr>
<td>13-Jan</td>
<td>Module 1</td>
<td>Chapter 1</td>
<td>17-Jan</td>
<td>Ethical Hacking Introduction</td>
<td>Classes start Jan 13</td>
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<td>20-Jan</td>
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<td>Chapter 2</td>
<td>24-Jan</td>
<td>TCP/IP Review</td>
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<td>Chapter 3</td>
<td>31-Jan</td>
<td>Network &amp; Computer Attacks</td>
<td>Weekly live session on Jan 27</td>
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<td>3-Feb</td>
<td>Module 2</td>
<td>Chapter 8</td>
<td>7-Feb</td>
<td>Endpoint\OS Threats and Vulnerabilities</td>
<td>Exam 1 window open starting Feb 13 for 48 hours</td>
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<td>10-Feb</td>
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<td>Chapter 9</td>
<td>14-Feb</td>
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<td>17-Feb</td>
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<td>Chapter 4</td>
<td>21-Feb</td>
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<td>Weekly live session on Feb 17</td>
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<td>24-Feb</td>
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<td>Chapter 5</td>
<td>28-Feb</td>
<td>Reconnaissance Phases &amp; Activities</td>
<td>Weekly live session on Feb 24</td>
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<td>2-Mar</td>
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<td>Chapter 6</td>
<td>6-Mar</td>
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<td>Weekly live session on Mar 2</td>
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<td>9-Mar</td>
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<td>Module 3</td>
<td>Chapter 10</td>
<td>20-Mar</td>
<td>Ethical Hacking Tools, Techniques, and Processes</td>
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<td>Chapter 11</td>
<td>3-Apr</td>
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<td>Chapter 12</td>
<td>17-Apr</td>
<td>Network Defense</td>
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<td>15-Apr</td>
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<td>20-Apr</td>
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<td>Final live session on Apr 20</td>
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<td>22-Apr</td>
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<tr>
<td>27-Apr</td>
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<td>Final Exam - 48hr window 4-30 to 5-1</td>
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<tr>
<td>1-May</td>
<td>Review\complete Final projects</td>
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<tr>
<td>1-May</td>
<td>Final Exam</td>
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