Course Syllabus and Policy Requirement Statement

In order to access your course materials, you must agree to the following, by clicking the "Mark Reviewed" button below.

By checking the "Mark Reviewed" link below, you are indicating the following:

- You have read, understood, and will comply with the policies and procedures listed in the class syllabus, and that you have acquired the required textbook(s).
- You have read, understood, and will comply with class policies and procedures as specified in the online Student Handbook.
- You have read, understood, and will comply with computer and software requirements as specified with Browser Test.
- You have familiarize yourself with how to access course content in Blackboard using the Student Quick Reference Guide or CSS Student Orientation Course.

INA4381 – Target Analysis

Course Description/Overview

Refreshes the students required knowledge of definitions, I.P. subnetting, and Information Security practices required to track a target. Identifies emails containing SPAM, Phishing, and Malware, how to determine if emails are authentic, and how to determine the I.P. address for all emails. Practical knowledge on how to trace an email to the originator. Allows hands-on experience in operating in a fusion center in the unclassified arena. Requires students to present an intelligence brief to the class on a specific foreign entity using tools, techniques, and analysis gained in the class.

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Click this link for a printable version of the syllabus

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Course Objectives/Learning Outcomes

Objectives:
Learning Outcomes:

1. Describe the prominence of hacking and what can be done to mitigate the effects of hacking.
2. Understand the definitions required in this lesson.
3. Describe the different types of phishing.
4. Understand the differences between a private and public I.P. address.
5. Demonstrate the opening of an email and accessing the metadata of that email.
6. Using a ping tool, use the steps to identify the sender of an email.
7. Discuss the different domain levels, the history of the Internet.
8. Define your MAC address, DNS, and AS, describe their purposes.
9. Identify AS and attempt to track through an Outside Program.
10. Understand RIRs and the resources necessary to identify RIRs used in the tracking.
11. Comprehend the steps required to start the tracking of a target.

As a result of completing this course, the student will be able to:

1. Comprehend the concepts of hacking and what can be done to either lessen the effects or eliminate hacking.

2. Comprehend the different types of phishing and the steps to eliminate phishing as a threat.
3. Demonstrate the opening of an email and accessing the metadata of that email.
4. Demonstrate the use of a ping tool and identify the sender of a possible phishing email.
5. Comprehend the different domain types and their levels.
6. Comprehend the history of the Internet.
7. Comprehend MAC Addresses, Domain Name Servers (DNS), and Autonomous Systems (AS), and their uses.
8. Comprehend Regional Internet Registries (RIR) and their services.
9. Demonstrate how RIRs can be used in tracking the path an email uses.
10. Demonstrate how to use an AS as a tracker using an outside program.
11. Comprehend the steps required to start the tracking of a target.
12. Demonstrate tracking techniques of a given target.

Required Texts:

The following texts are available on the web, provide excellent background, and will be used for this course:

1. -, *Hacking Laws and Punishment,* Criminal.findlaw.com, Retrieved from; https://criminal.findlaw.com/criminal-charges/hacking-laws-and-punishments.html, May 02, 2019
2. Reinhart, Christopher, *Penalties for Computer Hacking,*ORL Research Report, Retriefed from; https://www.cga.ct.gov/2012/rpt/2012-R-0254.htm#:~:text=The%20law%20punishes%20hacking%20under%20the%20computer%20crime%20statutes.&text=The%20law%20also%20punishes%20unauthorized,to%20%245%2C000%2C%20or%20both). May 2, 2020
3. Rubenking, Neil, *How to Choose the Right Antivirus; You Need Malware Protection,* PC Magazine, Retrieved from; https://www.pcmag.com/picks/the-best-malware-removal-and-protection-software, April 1, 2020
4. -,"What are Ports and Protocols?, *Speed Guide,* Retrieved from: http://www.speedguide.net/faq_in_q.php?qid=75 November 26, 2013
5. Stephanie Crawford. "How Stuff Works"., Retrieved from: http://computer.howstuffworks.com/internet/basics/question549.htm.November 26, 2013
6. Margaret Rouse. TCP (Transmission Control Protocol)., http://searchnetworking.techtarget.com/definition/TCP._____August 2006
7. Marshall Brain and Stephanie Crawford. "How Domain Name Servers Work"., http://www.howstuffworks.com/dns.htm. November 2006
8. Indiana University. "What is a Firewall?". http://kb.iu.edu/data/aoru.html., November 18, 2013
9. -,ARIN.NET. https://www.arin.net/knowledge/rirs.html., November 26, 2013
10. -, "What is a Ping?" *What is my IP Address.* Retrieved from: http://whatismyipaddress.com/ping., November 26, 2013
11. -, "Crimeware: Bots", *Norton By Symantec.* Retrieved from: http://us.norton.com/cybercrime-bots., November 26, 2013
12. -, "What is a Zombie?", *Panda.* Retrieved from: https://www.pandasecurity.com/en-us/security-info/zombie/., November 26, 2013
13. -, "What is a Trohan Virus? – Definition", *Kaspersky Lab*. Retrieved from: http://usa.kaspersky.com/internet-security-center/threats/trojans#.UpzohxB0k4c December 2, 2013
14. Ibid
15. Krzyzanoski, Paul, "Unserstanding Autonomous Systems", *Internet Technology,* Retrieved from: https://www.cs.rutgers.edu/~pxk/352/notes/autonomous_systems.html, March 21, 2016.
16. Bisson, David, *6 Common Phishing Attacks and How to Protect Against Them,* Tripwire.com, Retrieved from; https://www.tripwire.com/state-of-security/security-awareness/6-common-phishing-attacks-and-how-to-protect-against-them/, October 7, 2019

17. -, *Definition- What does Domain Mean?*, Techopedia, Retrieved from; https://www.techopedia.com/definition/1326/domain-networking, January 11, 2013
18. -,*Top-Level Domains (gTLD),* Internet Corporation of Assigned Names and Numbers (ICANN), Retrieved from; http://archive.icann.org/en/tlds/, March 2002
19. Andrews, Evan, *Who Invented the Internet?,* History.com, Retrieved from; https://www.history.com/news/who-invented-the-internet, December 18, 2013
20. [1] -,*Who Inventer the Internet?,* Computer Hope, Retrieved from; https://www.computerhope.com/issues/ch001016.htm, November 13, 2018
21. Rouse, Margaret, *Domain Name System (DNS),* Searchnetworking.techtarget.com, Retrieved from; https://searchnetworking.techtarget.com/definition/domain-name-system#:~:text=The%20domain%20name%20system%20(DNS,uses%20to%20locate%20a%20website., 2020
22. Kirby, D.,*MAC Address*, Richland.edu, Retrieved from; https://people.richland.edu/dkirby/141macaddress.htm July 14, 2020
23. Krzyzanowski, Paul, *Understandiang Autonomous Systems*, Internet Technology, Ruters University, Retrieved from; https://www.cs.rutgers.edu/~pxk/352/notes/autonomous_systems.html, March 21, 2016
24. -, *Guidelines for Creation, Selection and Registration of an Autonomous Systems (AS),* Network Working Group, Retrieved from; https://tools.ietf.org/html/rfc1930, March 1996
25. Krzyzanowski, Paul, *Understanding Autonomous Systems: Routing and Peering (CS419),* Rutgers University, Retrieved from; https://www.cs.rutgers.edu/~pxk/352/notes/autonomous_systems.html, March 21, 2016
26. [1] -, ARIN (American Registry for Internet Numbers), Retrieved from, https://www.arin.net/about/welcome/region/#:~:text=Regional%20Internet%20Registries%20(RIRs)%20are,work%20together%20on%20joint%20projects., August 7, 2020
27. Jarmon, Mark, *Cyber Security in Action*, Angelo State University, CSS, Decermber 4, 2013
28. -,*IP Addresses Trackers – How do they Work?,* Lead Forensics, Retrieved from, https://www.leadforensics.com/ip-addresses-trackers-how-do-they-work/, August 12, 2020

Grading Policies

Grades will be based on an ability to organize the material, integrate relevant concepts and theories, and present them in appropriate forms.

This course requires you to present your research to the class. This course allows you as a student, to hone your briefing skills, and allows you to understand and practice your research, writing and briefing skills. These skills are required in the Cybersecurity field.

Your first assignment, although required is not graded, will be a 10-15 minute brief will consist of information already researched, written and published.

Assignment	Percent of Grade	Due	Note
Quizzes	30%	Weeks 1-4	Quizzes are due NLT 11:59 P.M. Sunday of the week the Lesson was presented.
Mid-Term Project	30%	Thursday of week eightr	Your Mid-term Project i due NLT 9:00 A.M Thursday of Week 8 Presentations will b submitted on Blackboar and presented to th class.

Final Project	40%	Week sixteen	Your Final Group Project is due NLT 9:00 A.M. Tuesday of week 16. The project will be submitted on Blackboard and presented to the Class.

Student Assignments: Each student must participate in weekly quizzes, and participate in group projects, produce a Mid-Term project, assist in the group project.
Angelo State University employs a letter grade system. Grades in this course are determined on a percentage scale:

A = 90 – 100 %
B = 80 – 89 %
C = 70 – 79 %
D = 60 – 69 %
F = 59 % and below.

Course Organization:

Lesson 1: Hacking, Definitions and Phishing
Learning Outcomes:

1. Describe the prominence of hacking and what can be done to mitigate the effects of hacking.
2. Understand the definitions required in this lesson.
3. Describe the different types of phishing

. Required Readings:

1. -,*Hacking Laws and Punishment,* Criminal.findlaw.com, Retrieved from; https://criminal.findlaw.com/criminal-charges/hacking-laws-and-punishments.html, May 02, 2019
2. Reinhart, Christopher, *Penalities for Computer Hacking,*ORL Research Report, Retriefed from; https://www.cga.ct.gov/2012/rpt/2012-R-0254.htm#:~:text=The%20law%20punishes%20hacking%20under%20the%20computer%20crime%20statutes.&text=The%20law%20also%20punishes%20unauthorized,to%20%245%2C000%2C%20or%20both).
3. https://www.cga.ct.gov/2012/rpt/2012-R-0254.htm#:~:text=The%20law%20punishes%20hacking%20under%20the%20computer%20crime%20statutes.&text=The%20law%20also%20punishes%20unauthorized,to%20%245%2C000%2C%20or%20both). June 28, 2012
4. [1]Rubenking, Neil, *How to Choose the Right Antivirus; You Need Malware Protection,* PC Magazine, Retrieved from; https://www.pcmag.com/picks/the-best-malware-removal-and-protection-software, April 1, 2020
5. -,"What are Ports and Protocols?, *Speed Guide,* Retrieved from: http://www.speedguide.net/faq_in_q.php?qid=75 November 26, 2013
6. Stephanie Crawford. "How Stuff Works"., Retrieved from: http://computer.howstuffworks.com/internet/basics/question549.htm.November 26, 2013
7. Rouse, Margaret, *Domain Name System (DNS),* Searchnetworking.techtarget.com, Retrieved from; https://searchnetworking.techtarget.com/definition/domain-name-system#:~:text=The%20domain%20name%20system%20(DNS,uses%20to%20locate%20a%20website., 2020
8. Marshall Brain and Stephanie Crawford. "How Domain Name Servers Work"., http://www.howstuffworks.com/dns.htm. November 2006
9. Indiana University. "What is a Firewall?". http://kb.iu.edu/data/aoru.html., November 18, 2013
10. -,ARIN.NET. https://www.arin.net/knowledge/rirs.html., November 26, 2013
11. -, "What is a Ping?" *What is my IP Address.* Retrieved from: http://whatismyipaddress.com/ping., November 26, 2013
12. -, "Crimeware: Bots", *Norton By Symantec.* Retrieved from: http://us.norton.com/cybercrime-bots., November 26, 2013
13. -, "What is a Zombie?", *Panda.* Retrieved from: https://www.pandasecurity.com/en-us/security-info/zombie/., November 26, 2013
14. -, "What is a Trohan Virus? – Definition", *Kaspersky Lab*. Retrieved from: http://usa.kaspersky.com/internet-security-center/threats/trojans#.UpzohxB0k4c December 2, 2013
15. Ibid

16. Krzyzanoski, Paul, "Unserstanding Autonomous Systems", *Internet Technology,* Retrieved from: https://www.cs.rutgers.edu/~pxk/352/notes/autonomous_systems.html, March 21, 2016.
17. Bisson, David, *6 Common Phishing Attacks and How to Protect Against Them,* Tripwire.com, Retrieved from; https://www.tripwire.com/state-of-security/security-awareness/6-common-phishing-attacks-and-how-to-protect-against-them/, October 7, 2019
18. -, "What is a Trojan Virus? – Definition", *Kaspersky Lab*. Retrieved from: http://usa.kaspersky.com/internet-security-center/threats/trojans#.UpzohxB0k4c December 2, 2013
19. Ibid
20. Krzyzanoski, Paul, "Unserstanding Autonomous Systems", *Internet Technology,* Retrieved from: https://www.cs.rutgers.edu/~pxk/352/notes/autonomous_systems.html, March 21, 2016
21. [1] Bisson, David, *6 Common Phishing Attacks and How to Protect Against Them,* Tripwire.com, Retrieved from; https://www.tripwire.com/state-of-security/security-awareness/6-common-phishing-attacks-and-how-to-protect-against-them/, October 7, 2019

Lesson 2: Public, and Private IP, Email metadata, Ping Tool, Domain Levels
Learning Outcomes:

1. Understand the differences between a private and public IP address.
2. Demonstrate the opening of an email and accessing the metadata of that email.
3. Using a ping tool, use the steps to identify the sender of an email.
4. Discuss the different domain levels, the history of the Internet.

. Required Readings:

1. -, *Definition- What does Domain Mean?*, Techopedia, Retrieved from; https://www.techopedia.com/definition/1326/domain-networking, January 11, 2013
2. [1] -,*Top-Level Domains (gTLD),* Internet Corporation of Assigned Names and Numbers (ICANN), Retrieved from; http://archive.icann.org/en/tlds/, March 2002
3. Andrews, Evan, *Who Invented the Internet?,* History.com, Retrieved from; https://www.history.com/news/who-invented-the-internet, December 18, 2013
4. [1] -,*Who Inventer the Internet?,* Computer Hope, Retrieved from; https://www.computerhope.com/issues/ch001016.htm, November 13, 2018

Lesson 3:DNS, AS and MAC
Learning Outcomes:

1. Define your MAC address, DNS, and AS, describe their purposes.
2. Identify AS and attempt to track through an Outside Program.

Required Readings:

1. Rouse, Margaret, *Domain Name System (DNS),* Searchnetworking.techtarget.com, Retrieved from; https://searchnetworking.techtarget.com/definition/domain-name-system#:~:text=The%20domain%20name%20system%20(DNS,uses%20to%20locate%20a%20website., 2020
2. [1] Kirby, D.,*MAC Address*, Richland.edu, Retrieved from; https://people.richland.edu/dkirby/141macaddress.htm July 14, 2020
3. [1] Krzyzanowski, Paul, *Understandiang Autonomous Systems*, Internet Technology, Ruters University, Retrieved from; https://www.cs.rutgers.edu/~pxk/352/notes/autonomous_systems.html, March 21, 2016
4. [1] -, *Guidelines for Creation, Selection and Registration of an Autonomous Systems (AS),* Network Working Group, Retrieved from; https://tools.ietf.org/html/rfc1930, March 1996
5. [1] Krzyzanowski, Paul, *Understanding Autonomous Systems: Routing and Peering (CS419),* Rutgers University, Retrieved from; https://www.cs.rutgers.edu/~pxk/352/notes/autonomous_systems.html, March 21, 2016

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Lesson 4: RIR and Tracking
Learning Outcomes:

1. Understand RIRs and the resources necessary to identify RIRs used in the tracking.
2. Comprehend the steps required to start the tracking of a target.

Required Readings:

1. -, ARIN (American Registry for Internet Numbers), Retrieved from, https://www.arin.net/about/welcome/region/#:~:text=Regional%20Internet%20Registries%20(RIRs)%20are,work%20together%20on%20joint%20projects., August 7, 2020
2. Jarmon, Mark, *Cyber Security in Action*, Angelo State University, CSS, Decermber 4, 2013
3. -,*IP Addresses Trackers – How do they Work?,* Lead Forensics, Retrieved from, https://www.leadforensics.com/ip-addresses-trackers-how-do-they-work/, August 12, 2020

Tracking Projects
Learning Outcomes:

Using previous lessons, and hands-on practice; produce a small group presentation the end of week 8, and a class project week 16.

At the end of Week 4, a non-graded assignment will be assigned. Indiviaually, the students will take TRACKED, and critique the document. Go into deeper analysis doing a minimum of ping, and WhoIs on all ASNs, and IP servers, using the same format as the Powerpoint presented. The end of week 8, a mid-term assigned to a small group tracing an IP address which will be assigned by the Instructor. Your mid-term will be a minimum of ten minute presentation including written portion turned in to your Instructor via Blackboard. The final assignment will be a 30 minute full class presentation, tracing an IP address assigned by your Instructor. Both the Mid-Term and the Final will be graded.

Communication

Office Hours/Contacting the Instructor

See the Instructor Information section for contact information.

Academic Integrity Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits.

University Policies

Students are responsible for understanding and complying with the university Academic Honor Code and the ASU Student Handbook.

Accommodations for Disability
ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA), and subsequent legislation.
Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student's responsibility to initiate such a request by emailing studentservices@angelo.edu, or by contacting:

Office of Student Affairs
University Center, Suite 112
325-942-2047 Office
325-942-2211 FAX

Student absence for religious holidays
A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.