ITNW 1342 – Information Technology Security

Course Syllabus: Summer 2022 (10-Week Course)

"Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed."

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PLEASE USE BLACKBOARD MAIL FOR CLASS CORRESPONDENCE

Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	8-6	8-6	8-6	8-6	8-12	Upon Request
Zoom Office URL is: https://ntcc.zoom.us/my/krose						

This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.

Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.

Course Description: (3 Semester Credit Hours) Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools, encryption; and protection from viruses.

Co-requisite(s): ITNW 1325 -- Fundamentals of Networking Technologies

Required Textbook(s): Network Defense Essentials v.1, EC-Council (ePub)

Students will need to download an ePub reader in order to read the e-text.
iBook - Mac, iPad
ePubReader – Chrome Browser Extension
Freda – Windows - http://www.turnipsoft.co.uk/freda/

Student Learning Outcomes:

- Discuss fundamental concepts of network security, including Information Assurance (IA) principles, network defense challenges, defense approaches, security controls, and review essential network security protocols.
- Discuss access control principles, terminologies, and models, and describe Identity and Access Management (IAM) concepts.
- Examine various administrative network defense controls, including frameworks, laws, acts, and security policies.
- Examine various physical network defense controls, including physical security controls, workplace security, and environmental controls.
- Examine various technical network defense controls, including network segmentation, firewall, IDS/IPS, honeypot, proxy server, VPN, SIEM, UBA, and anti-malware.

- Comprehend fundamental virtualization concepts, Virtualization Security Concerns, cloud computing, and suggest security best practices.
- Explain wireless network fundamentals, different types of wireless encryption, and suggest security measures.
- Discuss various mobile device connection methods, Mobile Device Management concepts, common mobile usage policies, examine different security risks, and review general security guidelines and best practices for mobile platforms.
- Discuss working of IoT devices, application areas, communication models, IoT security principles, IoT framework security considerations, IoT device management, and identify IoT security best practices.
- Discuss cryptography techniques, various cryptographic algorithms, and Public Key Infrastructure (PKI), and use various cryptography tools to protect information.
- Discuss data security concepts, the importance of data encryption, data loss prevention, and compare different data backup concepts and technologies.
- Discuss the need and advantages of network traffic monitoring, determine baseline traffic signatures for normal and suspicious network traffic, and perform network monitoring for suspicious traffic.

Resources:

Your instructor can be your greatest resource. I am here to assist you in learning the material and helping you earn the grade you wish to earn in the course. This is my commitment to you. Please utilize this "resource" by contacting me with any matter you feel I can assist you with, both within this class, or your university success in general. It is your responsibility to learn the material, but this can often be best accomplished by initiating contact with me on topics you need clarification or further assistance. Please do this!

Class Calendar:

Week	Start	Due Date	Topic	Text Ref.
0		06-Jun	Course Overview – Getting Started	
1	06-Jun	20- Jun	Network Security Fundamentals	Mod 1
2	13- Jun	20- Jun	Identification, Authentication, and Authorization	Mod 2
3	20- Jun	27- Jun	Network Security Controls – Administrative Controls Network Security Controls – Physical Controls	Mod 3 Mod 4
4	27- Jun	4-Jul	Network Security Controls – Technical Controls	Mod 5
5	4-Jul	11- Jul	Virtualization and Cloud Computing	Mod 6
6	**11- Jul**	**18- Jul**	**NDE Pre-assessment 1 (Mod 1-6)**	**Online**
7	18- Jul	25- Jul	Wireless Network Security Mobile Device Security	Mod 7 Mod 8
8	25- Jul	1-Aug	IoT Device Security Cryptography and PKI	Mod 9 Mod 10
9	1-Aug	8-Aug	Data Security Network Traffic Monitoring	Mod 11 Mod 12
10	8-Aug	11-Aug	NDE Pre-assessment (Mod 7-12)	Online

Please Note: For a full listing of institutional dates (i.e., drop dates, graduation filing dates, etc.), the NTCC Academic Calendar can be found online at:

https://www.ntcc.edu/sites/default/files/2021-02/2021-2022%20Academic%20Calendar.pdf

Evaluation/Grading Policy:

Grades of A, B, C, D, and F will be determined by the student's achievement of a total number of possible points based on the below listed categories.

Assignments	Points
Homework assignments	
Syllabus Quiz	20
Chapter Material (8 Chapters)	
Labs (Virtual/Simulations) – 1 per Chpt x 20 points x 12 Chpt.	240
Chpt Quiz – 30 points x 12 Chpt.	360
Chpt Narrative Question – 20 points x 12 Chpt.	240
Exams	
Exam 1	100
Exam 2	100
Total	1,060

The letter grade is based on the following Grading Scale:

Total Points	Ltr. Grade
>= 900	A
800-899	B
700-799	C
600-699	D
Below 600	F

NDE Pre-Assessments:

The philosophy of this course is to prepare you with the knowledge and skills to take the EC-Council Network Defender Essentials industry certification exam. Therefore, in exchange for "formal" exams, you will complete two assignments that will assist you in preparing for this industry exam. The assignments will be from EC-Council's exam pre-assessment tool. These assignment will allow you answer (open book/notes) questions that are similar to the ones you would see on the NDE exam.

The details of the assignments will be given in the course, but in general, the first assignment will cover Modules 1-6 of the course, with the second one covering Modules 7-12.

You will be required to complete both pre-assessment assignments in order to be successful in this course. You will receive an 'F' in the course if both pre-assessments are not completed.

Pre-Assessment 1 Due Date – Chapters 1-6 (Jul 11-18)
Pre-Assessment 2 Due Date – Chapters 7-12 (Aug 8-11)

Assignments:

SYLLABUS QUIZ:

The syllabus quiz will cover the contents of the syllabus and attempt to ensure we have a mutual understanding of how the course will operate and expectations of all parties. This quiz will be offered through BlackBoard and should be taken during the first week of class.

CHAPTER ASSIGNMENTS:

Each chapter will consist of the following assignments:

- Chapter Quiz – 15 questions covering the chapter reading
- Hands-on Labs (Virtual/Simulation) – Hands-on labs conducted on virtual servers
- Narrative Question – Question prompt covering a topic covered within the chapter. **Narrative should be typed, double spaced, and converted to PDF prior to submitting.**

  Grading will follow the below rubric:

Task	Developing	Proficient	Exemplary
Narrative	Generalized statements	Some specific statements with supporting evidence	Narrative with specific and thoughtful statements and supporting evidence
	6 points	**8 points**	**13 points**
Mechanics	• Length < 100 words • Several grammar and spelling errors	• Length = 100 words • Occasional grammar and spelling errors	• Length > 100 words • Appropriate grammar and spelling • Converted to PDF
	2 point	**4 point**	**7 points**

All chapter assignments will be accessed through the NTCC BlackBoard LMS

Required Instructional Materials: EC-Council iLabs Virtual Lab Environment

Optional Instructional Materials: None

Minimum Technology Requirements: Student should understand how to use a web browser to access the BlackBoard Learning Management System.

Required Computer Literacy Skills: Web browser

Communications:

The best way to communicate with me is via Bb Message. You should hear back from me within 24 hours, excluding weekends/holidays. In addition, I am very welcome to set up a specific time I can "meet" with you via phone, chat, or Zoom video conference.

Institutional/Course Policy:

Online Access: Students must login to the class during the first week of the semester and post to the discussion board through BlackBoard (see first assignment). Submission of assigned work will count as communication.

Class Attendance: Participation on the class website will constitute "attendance." Withdrawal

requests MUST BE initiated by the student. The last day for a student to drop a course with a grade of "W" is **Thursday, July 28, 2022.** Requests for withdrawal become official and effective the date they are received in the records office. Students who stop coming to class (that is, stop participating on the class website) but fail to drop the course will *earn* an "F" for the course.

Late Work: Due to the fast pace and "building-block" nature of the course content, no late work will be accepted. If there are extenuating circumstances, please contact your instructor.

Alternate Operations During Campus Closure and/or Alternate Course Delivery Requirements:

In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Northeast Texas Community College to move to altered operations. During this time, Northeast Texas Community College may opt to continue delivery of instruction through methods that include, but are not limited to, online through the Blackboard Learning Management System, online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor NTCC's website (http://www.ntcc.edu/) for instructions about continuing courses remotely, Blackboard for each class for course-specific communication, and NTCC email for important general information.

Additionally, there may be instances where a course may not be able to be continued in the same delivery format as it originates (face-to-face, fully online, live remote, or hybrid). Should this be the case, every effort will be made to continue instruction in an alternative delivery format. Students will be informed of any changes of this nature through email messaging and/or the Blackboard course site.

NTCC Academic Honesty/Ethics Statement:

NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information on these subjects.

ADA Statement:

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to request accommodations. An appointment can be made with the Academic Advisor/Coordinator of Special Populations located in Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to the special populations page on the NTCC website.

Family Educational Rights and Privacy Act (FERPA):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of

attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.