BOR 4301/ISSA 4304

Critical Communication Infrastructure

Seven and Half Week Undergraduate On-line Course

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Course Syllabus and Policy Requirement Statement

Course Description/Overview

This course focuses on how critical communication systems function, their interconnectivity with other critical infrastructures, and their vulnerabilities. The course materials focus on processes and policies associated with hardening and protecting critical communications infrastructure from natural hazards, potential terrorist threats, and attacks associated with modern warfare.

Course Bibliography and Required Readings

There is no textbook required for this course. All readings will be available via WWW or will be provided by the instructor.

Course Objectives/Learning Outcomes

Objective One: Identify the components of the US communication infrastructure

Objective Two: Explain the dependencies of other sectors of the infrastructure on communication

Objective Three: Describe the vulnerabilities of the communication infrastructure

Objective Four: List the government and private sector agencies and organizations that are focused on protecting the communication infrastructure

Objective Five: Describe the policies and procedures that can help mitigate the risks to the communication infrastructure

Course Organization

Lesson 1: Intro to Communication Infrastructure: Voice Communication
An overview of the telecommunication infrastructure, with a focus on the telephone system and cellular phone networks. Included will be a discussion of the Emergency Communication System and it's dependence on the telecommunication infrastructure during an emergency.

Lesson 2: Data Communication and the Internet
A look at the systems and networks that make up the global Internet and other data systems.

Lesson 3: SCADA and the Electrical Grid
We will discuss how the communication infrastructure affects other important sectors, examine the features of SCADA systems, and look at the electrical power grid as an example of a SCADA controlled system.

Lesson 4: Natural Disaster and Physical Attack
Physical damage to individual components of the communication infrastructure, either through natural disaster, physical attack, or even operator error is examined.

Lesson 5: Cyber Attack
A look at the possible motives, methods, and mitigations of a cyber attack on the communication infrastructure.

Lesson 6: Preparedness and Resilience
In lesson 6 we will discuss the concepts of preparedness and resilience as they apply to the communication infrastructure.

Lesson 7: Agencies and Regulations
In this lesson we look at the government's role in protecting the communication infrastructure.

Lesson 8: Protection and Security
What are the security policies and procedures that should be in place to prevent or at least mitigate the effects of a cyber attack on the communication infrastructure?

Grading Policies

This course employs writing assignments and weekly discussions to measure student learning.

Assignment	Percent of Grade	Due
Writing Assignment 1	**25%**	Friday, Week 4
Writing Assignment 2	**35%**	Wednesday, Week 7
Participation in the Discussion Board	**40%**	Weekly

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.

Writing Guidelines

In addition to the weekly discussions, there are two written essays. Specific requirements for each writing assignment can be found in the weekly lessons.

Formal academic writing uses standardized styles and citation formats. The preferred format is the APA style. To access the APA writing guidelines go to this link: http://owl.english.purdue.edu/owl/resource/560/01/. Should you wish to use Chicago style, the Chicago Style guide can be found at https://owl.english.purdue.edu/owl/resource/717/01/. Papers should have 1-inch margins all around. You are expected to use a standardized font - preferably Times New Roman, 12 point. Cite your references in EVERY instance and include a properly formatted reference list and cover page with every assignment.

Every writing assignment should be submitted as a WORD or PDF document. If you do not have Microsoft Office or Adobe Acrobat, then copy the text you have written directly into the assignment section of Blackboard during the appropriate week. **Do NOT** submit writing assignments in Word Perfect, Microsoft Works, or some e-mail format. They will not be accepted.

Rubrics

Discussion forums and writing assignments will be graded using a standardized rubric. It is recommended that you be familiar with these grading criteria and keep them in mind as you complete the writing assignments. There are two rubrics. Click the link to download the PDF document:

[Discussion Rubric](#)
[Writing Assignment Rubric](#)

Final Exam

This course does not utilize a final exam as part of evaluating student learning. In lieu of a final exam, students are expected to complete their final assignment and an evaluation of the course by Wednesday of the last week of class.

Warning:

Any **PLAGIARISM** will not be tolerated and can result in the failure of a course and dismissal from the University.

Administration

Communication

Students are expected to participate regularly through the course discussion forum. Students may receive occasional emails from the course instructor and are expected to respond promptly. Asynchronous communication (i.e., face-to-face, or "real-time" communications is not required for this course, however your professor is available for phone conversations, or email.

In the class *everyone*, brings something to the table. Your ideas and thoughts do count, not only to me, but the entire class. Feel free to ask questions either via e-mail or the discussion board. **Check the discussion board regularly**. Many student questions are applicable to the class, as are the responses. You may be surprised how many of your classmates have the same questions and concerns as you. I may simply post your question on the discussion board and allow your classmates to provide the answer through their own posts.

To some, this may be their first online class and naturally, it could seem somewhat intimidating. As a class, we are together to help each other with this learning process and share our collective knowledge on how best to communicate; how to resolve technical issues that may arise (if we have the expertise), and to assist each other to find answers to our questions.

Courtesy and Respect are essential ingredients to this course. We respect each other's opinions and always respect their point of view while in our class sessions. The use of profanity and harassment of any form is strictly prohibited (Zero Tolerance), as are those remarks concerning

one's ethnicity, lifestyle, race (ethnicity), religion, etc., violations of these rules will result in immediate dismissal from the course.

We will learn and work as a team.

Attendance

This is an online course and attendance is not taken. However, failure to participate in the discussion board, to communicate or respond to e-mails from the professor, is an indication something is wrong. Therefore, we have made a significant component of the course grade as an enticement to keep you engaged in the learning process. Failure to participate or communicate on the part of a student will result in an appropriate reduction of your grade and possibly in your failure of this course.

Late Work

You must contact your professor before the assignment is due if you believe it will be late. Anyone who does not communicate their late submission in the appropriate manner, reduction of your grade and possibly failure of this course may occur.

Office Hours

Email anytime and phone conference by appointment, you also communicate via text.

University Policies

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

Title IX at Angelo State University
The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU's Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the *University Health Clinic and Counseling Center at 325-942-2173* or the *ASU Crisis Helpline at 325-486-6345*.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.

Required Use of Masks/Facial Coverings by Students in Class

As a member of the Texas Tech University System, Angelo State University has adopted the mandatory Facial Covering Policy to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after classes while on the campus of Angelo State University. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not

appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.