

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 in the [Student Orientation Course](#).

# **BOR 4301/INA 4304: Critical Communication Infrastructure**

## **Course Description/Overview**

This course focuses on how cyber communication systems function, their interconnectivity, and 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 its dependence on the telecommunication infrastructure during an emergency.
- Lesson Data Communication and the Internet**

**2:** A look at the systems and networks that make up the internet and other data systems.

**Lesson 3: SCADA and the Electrical Grid**

**3:** 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**

**4:** Physical damage to individual components of the communication infrastructure, either through natural disaster, physical attack, or even operator error are examined.

**Lesson 5: Cyber Attack**

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

**Lesson 6: Preparedness and Resilience**

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

**Lesson 7: Agencies and Regulations**

**7:** In this lesson we look at the government's role in protecting the communication infrastructure.

**Lesson 8: Protection and Security**

**8:** 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	35%	Friday, Week 4
Writing Assignment 2	35%	Thursday, week 8
Participation in the Discussion Board	30%	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

Each writing assignment deals with the topic under discussion. These writing assignments cumulatively account for 75% of the student's grade. Writing assignments are expected to be about 1500 - 2000 words.

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 that will be acceptable. The Chicago Style guide can be found at <http://www.chicagomanualofstyle.org>. 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.

## 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](mailto: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.