I do not have a local phone number and I am not located in San Angelo. It is also difficult to reach me during the day during the week via telephone, given my office. Also, please no calls after 9pm Central Time. You can send me a text, although I will not see it during weekday work hours. Sending an email message will be the most reliable way to get in touch with me.

Course Description:
This course focuses on how communication systems function, their interconnectivity and vulnerabilities. There are quite a few different sectors of the infrastructure in the United States that is deemed critical, but we will focus on the communications infrastructure. The course materials focus on processes and procedures associated with hardening and protecting critical communications infrastructure from natural hazards, terrorist attacks, and attacks associated with modern conflicts.

Course Bibliography and Required Readings:
There is no required textbook for this class. All readings are available on-line or will be provided by the instructor.

Course Objectives/Learning Outcomes:
Objective 1: Identify the components of the U.S. communications infrastructure

Objective 2: Explain the dependencies of other sectors of the US. infrastructure on communications

Objective 3: Describe the vulnerabilities of the communications infrastructure

Objective 4: List the government agencies and private sector organizations that are focused on protecting the communications infrastructure

Objective 5: Describe the policies and procedures that can help mitigate the risks to the communications infrastructure

Course Organization:
Lesson 1: Introduction to Communications Infrastructure: Voice Communications
An overview of the telecommunication infrastructure, with a focus on telephone and cellular phone systems. Included will be a discussion of the Emergency Communication System and its dependence on the telecommunications infrastructure during an emergency.
Lesson 2: Data Communication and the Internet
A look at the systems and networks that make up the internet and other data systems.

Lesson 3: SCADA and the Electrical Grid
A look at how the communications 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 communications infrastructure; whether through natural disaster, intentional attack, or even operator error; is examined.

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

Lesson 6: Preparedness and Resilience
A discussion of the concepts of preparedness and resiliency as they apply to the communications infrastructure.

Lesson 7: Agencies and Regulations
The government’s role in protecting the communications infrastructure.

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

Grading Policies:
Grades for this class are based on weekly posts on the discussion board and two writing assignments. There is no final exam. The second writing assignment is due the Wednesday of the final week of the class, 17 October 2018. Discussion board posts are due each Friday evening, posted by 10pm Central Time. Responses to your classmates’ posts are due no later than the following Sunday by 7pm Central Time. Posts time-stamped after the due time will be considered late.

Angelo State University employs a letter grade system. Grades in this course are determined on the following scale:

A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
D = 60 – 69%
F = 59% and below
<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percent of Overall Grade</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion Board Posts</td>
<td>45%</td>
<td>Weekly</td>
</tr>
<tr>
<td>Writing Assignment 1</td>
<td>20%</td>
<td>End of Week 4, 23 September 2018</td>
</tr>
<tr>
<td>Writing Assignment 2</td>
<td>35%</td>
<td>Wednesday of Week 8, 17 October 2018</td>
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</tbody>
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**Writing Guidelines:**
Each writing assignment deals with the topic under discussion. Page limit for Writing Assignment 1 is four pages of text and the page limit for Writing Assignment 2 is 5-8 pages, with eight pages as a hard maximum. The goal of each assignment is not to have you write lengthy papers but to demonstrate understanding of the topic and the ability to concisely and adequately discuss it. There is no credit for going over the page limit for either assignment and any paper that is substantially over the specified page limit will be marked down. It is much harder to briefly explain a problem than to have all the space you might need or want.

There is a famous story that Mark Twain once apologized to a friend for writing a long letter because he didn’t have the time to write a short one. The moral is that it is easy to write a lot and throw everything you can think of into a paper. That is not a luxury you will have in the intelligence community. Brevity is critical if you want senior folks to read your assessments. Their time is short, and they have a lot on their plates. My experience is that really long papers just won’t get read.

Make sure to use proper grammar, formatting, and styles for your papers. The preferred format is APA Style. Detailed instructions on APA Style can be found at: [https://owl.purdue.edu/](https://owl.purdue.edu/). Follow the guidelines with a couple of caveats: You do not need to use a page header and you do not need to include an abstract for the assignments. Do use a title page and a separate page for your references (which do not count towards the text page limit). APA does not recommend the use of footnotes or endnotes, but you should use them in your papers. I prefer you use endnotes for citing where you explicitly use a source; footnotes should be used if you need to add an explanatory sentence or two that would not fit in your paper. I do not expect you to need to use footnotes. You may also use Chicago Style if you choose, detailed information on the Chicago Style can be found at: [http://www.chicagomanualofstyle.org](http://www.chicagomanualofstyle.org). Regardless of what style you choose, make sure to be consistent within each paper.

Otherwise, standard formatting applies: 1-inch margins, double-spaced, common font such as Times New Roman 12 point. Make sure to cite your sources appropriately. Please submit both of your writing assignments as Word documents. If you do not have access to Microsoft Word, please let me know so that we can make other arrangements. Other formats will not be accepted.

**Discussion Board Guidelines:**
Each discussion board post should be approximately 200 words, citing sources, as appropriate. You do not need to use formal footnotes or endnotes. For the posts, use in-line citations with author’s last name, year of publication, and page number. For example, if you were quoting material from an article I wrote in 2015 and the material was on page 86 the citation would be: (Canedo 2015: 86). The citation goes immediately after where you include the cited information. Responses to your classmates’ discussion posts should be approximately 100 words each. I will not word count your posts or responses unless they obviously look short. If they do, and they are short, then your discussion board grade for that week will be penalized.
I recommend writing your posts and responses in Word or another program so that you can check spelling, grammar, and formatting. While these are not formal papers I do expect you to use proper formats. No partial sentences, unfinished thoughts, or informal language usage will be acceptable. Additional guidance will be provided as necessary.

Please note that the Discussion Board portion of your grade is a significant. Since this class is not face-to-face, the Discussion Board is really the only way for you to interact with each other. Make sure to not only write your own posts but comment on the posts of two of your colleagues. Make sure to go beyond stating “nice job” or “good point” and engage your classmates’ points. Bring in the readings from the class and feel free to bring in outside material if it is germane. I have taken a few on-line classes as well and, in my experience, having a good, robust discussion is really important.

Making Deadlines:
If something comes up and it looks like you will miss a deadline or be late, make sure to contact me via email as soon as you can. Making arrangements ahead of time is far better than missing deadlines. A missed deadline for an assignment without contacting me if there is an issue will result in a dramatic hit in the grade for that assignment. Also, while this class is on-line some students may be geographically dispersed (I am in Maryland outside Annapolis) so please watch turn-in times so that you are not inadvertently late in case you are not on Central Time.

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:
The Student Life Office 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 contacting the Student Life Office at 325-942-2191 or 325-942-2126 (TDD/FAX) or by email at Student.Life@angelo.edu to begin the process.

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 of complete an assignment scheduled for that day within a reasonable time after the absence.