BOR4351: Critical Infrastructure Protection

Course Description/Overview

Click this link for a [printable version of the syllabus](#).
This is a senior level course addressing the topic of critical infrastructure protection. Critical Infrastructure protection has become a major component of national and homeland security policy. Recently, the potential of terrorist attacks on the national infrastructure essential to the continued economic, military, political, and financial well-being of a nation has been made clear through the terrorist attacks of 9-11, the attacks on mass transit in England, Spain, and Japan, bombings of financial institutions in Turkey, and the continual broadcast of terrorist calls for attacks on local, vulnerable targets.
From the course catalog: "*The evolution and principles of critical infrastructure, in both the private and public sectors, vital to their community, state, or the nation are identified. Risk assessments are performed and students address risk mitigation plans and appropriate countermeasures to a variety of threats from an all-hazards perspective. Includes instruction in homeland security policy, critical infrastructure policy, threat assessment, physical security, personnel security, operational security, contingency planning, case analyses of specific industries and systems, redundancy planning, emergency and disaster planning, security systems, and intelligence operations*."
This course is taught over a 7-week period.

Course Bibliography and Required Readings:

Homeland Security and Critical Infrastructure Protection, Second Edition
Ryan Baggett and Brian Simpkins
2018
Praeger Security International
ISBN 978-1-4408-5395-1
eISBN 978-1-4408-5396-8
Other readings will be provided to the student in electronic format

Prerequisites

There are no prerequisites for this course.

Technical skills required for this course

As with all online courses, students must be able to operate a computer and have the necessary technical skills to navigate around a web page. Additional technical skills are not a prerequisite for this course, however your computer must meet certain minimum requirements to operate the software associated with this class. Particularly, you will be asked to download, install, and use Google Earth in order to complete an assignment. Your will need appropriate privileges to be able to install software on your computer.

Time spent on this course

Students can expect to spend a minimum of 6 hours per week to complete all the readings and assignments. The lessons themselves take as long as the student will require to read the materials and watch or listen to media presentations.

Goals, Objectives, and Outcomes

This course has several objectives:
Objective One: To expand, define, and identify critical infrastructure.
Objective Two: To develop student comprehension of the need for a critical infrastructure protection plan.
Objective Three: To assess student synthesis of knowledge, comprehension, and application of the principles of critical infrastructure protection from an all-hazards perspective.

Students have a right to know what instructors are going to expect that they learn from a course of instruction and how their learning will be measured. This course establishes several learning outcomes that are measured subjectively. When you finish this course you should be able to:

1. Apply critical infrastructure evaluation procedures across a wide spectrum of infrastructure.
2. Analyze the condition and vulnerability of critical infrastructure.
3. Compose a critical infrastructure evaluation plan, execute that plan, and produce an analysis of a critical infrastructure component.
4. Evaluate and critique the existing critical infrastructure protection measures in place in any given community.
5. Critically think and critically write about Homeland Security topics.

Note: in each individual lesson you may see two different terms in the **To-Do** lists, "**read**" and "**review**". In this course these have two different meanings.
"Read" implies that you will actually read the entire material.
"Review or optional reading" implies that you will skim the materials for interesting or applicable information that will enhance your comprehension of the course materials, other readings, or course focus. Some of the materials identified for "review" are very long, and you are not expected to read all this, simply use it as an appropriate reference.

Grading Policies

Discussion board participation: Seven (7) discussion topics at 5% each = 35% of overall grade. Participation in the Discussion Board will be graded using the Discussion Rubric found throughout the Border and Homeland Security program.
Research Proposal: submitted on FRIDAY of Week 4, this two (2) page paper formalizes the identification of a critical infrastructure component, justification for its selection, and proposal of a vulnerability evaluation process. This proposal counts for 25% of your overall grade.

Research Paper: submitted on FRIDAY of Week 8, this ten to twelve (10-12) page paper is an analysis of the previously selected critical infrastructure component, coupled with an evaluation of the vulnerability of the component, and a proposal for improvement in the protection of that component. This paper counts for 40% of your overall grade.

Grades

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.

Discussion Guidelines

With the exception of week eight (8) there will be a discussion topic posted to the Discussion Board. Students are expected to critically think about the presented topic and apply what they've learned to that topic.
- Each student will make an **initial, robust posting of 250 words or more** that addresses the topic.
- Students will also offer critical **responses to the postings of two or more** other students of **150 words or more each**.

The intent is to establish a discussion between students over the proposed topic. Discussion board posts will be graded using the discussion rubric.

Writing Guidelines

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. An abstract is not necessary in this class.
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.

Writing Assignment

This course utilizes two (2) writing assignments, **Research Proposal** and **Research Paper**. **Research Proposal:** submitted on Friday in Week 4, this two (2) page paper formalizes the identification of a critical infrastructure component, justification for its selection, and proposal of a vulnerability evaluation process. It is important to note that a component is NOT a critical infrastructure sector or system. It is an individual component or hub that fits into the system or sector. **Students are expected to present their proposal in a format that includes the following components:** identification of the critical infrastructure; connection between the selected infrastructure and how it fits into the guidelines presented in the text and supplemental readings; identification of points of contact that the student will communicate with prior to conducting an evaluation of the infrastructure; and identification of proposed references (not necessarily all inclusive) to be used in conducting the evaluation. This paper will be graded using the Writing Assignment Rubric. The paper should be two (2) pages in length, with 1 inch margins, using Times New Roman 12 point font. Length is exclusive of the cover page and references.
Your Research Proposal will be approved by the professor and appropriate feedback provided. Recommendations for changes will have to be incorporated and the proposal resubmitted before beginning your research paper.

Research Paper: submitted on FRIDAY of Week 8, this ten to twelve (10-12) page paper is an analysis of the **previously selected critical infrastructure component**, coupled with an evaluation of the vulnerability of the component, and a proposal for improvement in the protection of that component. Students are expected to present their proposal in a format that expands on the components of the Research Proposal and adds the following components: identification of points of contact that the student has communicated with during the conduct of the evaluation; analysis and assessment of the vulnerability of the infrastructure; proposal for improvements to enhance the protection and reduce the vulnerability of the infrastructure; and a comprehensive listing of the references consulted in conducting the evaluation. This paper will be graded using the Writing Assignment Rubric. The paper should be ten to twelve (10-12) pages in length, with 1 inch margins, using Times New Roman 12 point font. Length is exclusive of the cover page and references.

LATE PAPERS 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

Other Policies

Participation and Communication

In this 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 a whole, 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 particular 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.
We will learn and work as a team.

Courtesy and Respect

Courtesy and Respect are essential ingredients to this course. We respect each other's opinions and respect their point of view at all times while in our class sessions. The use of profanity & harassment of any form is strictly prohibited (Zero Tolerance), as are those remarks concerning one's ethnicity, life style, race (ethnicity), religion, etc., violations of these rules will result in immediate dismissal from the course.

Incompletes

The University policy on grades of "Incomplete" is that the deficiency in performance must be addressed satisfactorily by the end of the next long (16 week) semester or the grade automatically becomes a "F". Grades of "Incomplete" will only be awarded to students who have demonstrated sufficient progress to earn the opportunity to complete the course outside of the normal course duration. The award of an "Incomplete" will only be made in rare circumstances, with the concurrence of the student and the professor on what specific tasks remain and when they are due for the grade to be changed to a higher grade. The determination of the need to award an "Incomplete" is entirely up to the professor's personal judgment.

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. We can no longer forcibly drop students from classes for non-attendance or non-participation. Therefore, we have made both 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.

Add/Drop dates

Students may add this course up to the last Friday of the first week of class.
Students may drop this course up to the 6th day of the class or the last drop date as specified by the University Administration.

Course Organization:

Lesson 1: The course is opened with a note of welcome, some basic information on the organization of the class and expectations of student participation. The lesson then proceeds to cover the various legal bases for protecting critical infrastructure as well as the National Infrastructure Protection Plan and the National Incident Management System.
Lesson 2: The process of conducting Critical Infrastructure and Key Resource vulnerability analysis is discussed with the intent of assisting students in selecting CI/KR components for further analysis and research.
Lesson 3: This lesson explores the various energy systems in the U.S. and the transportation sector as critical infrastructure.
Lesson 4: The importance of facilities and national icons as critical infrastructure is reviewed. This lesson then continues by looking into the various components of critical infrastructure that are environmentally important.
Research Proposal is due on Friday of this week.
Lesson 5: Over 20% of U.S. GDP is generated by the critical infrastructure sectors of communications, information technology, and the banking/finance industry. In conjunction with these sectors the issue of public safety as critical infrastructure is discussed.
Lesson 6: 1 in 10 workers are employed by the Health and Public Health sector with the infrastructure ranging from rural hospitals to large urban complexes that service millions of people per year.
Lesson 7: This will be the conclusion of the course focusing on the convergence of Physical and Cybersecurity.
Lesson 8: This will wrap up our course as we focus on the final research paper.
Research Paper is due on Friday of this week.

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

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 class. 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