



# A&M-COMMERCE

## ENVS 103 – Natural Disasters

### COURSE SYLLABUS

|       |  |       |  |
|-------|--|-------|--|
| Term: |  | Year: |  |
|-------|--|-------|--|

#### INSTRUCTOR INFORMATION

|                             |  |
|-----------------------------|--|
| Instructor Name:            |  |
| Office Phone:               |  |
| A&M Commerce Email Address: |  |
| Instructor Notes:           |  |

**Office Location:** Online/Remote

**Office Hours:** Email, Telephone, or Virtual by Appointment

**Preferred Form of Communication:** Email

**Communication Response Time:** 24 Hours or Less (Grading of assignments is typically not completed in 24 hours or less)

[CBE Handbook Link](#)

#### COURSE INFORMATION

##### Course Materials

This course has been designed using Open Educational Resources (OER) and/or materials that are available through the [Waters Library](#). All materials are embedded within the course or are accessible via the internet or accessible through the Waters Library resource portal. After taking the pretest, students are encouraged to bookmark, download, or save materials provided via the internet for use with assignments and projects in this class.

### **Course Description**

Scientific principles and case studies of natural disasters, including those related to geological, meteorological, biological, cosmological, and man-made hazards and disasters. Note, this can be used to fulfill a core curriculum science requirement.

### **Student Learning Outcomes**

Completion of this course provides the student with the knowledge to:

1. Describe the physical mechanisms that combine to form both normal and extreme weather patterns.
2. Explain how tectonic plate dynamics result in earthquakes, volcanoes, and other geologic natural disasters.
3. List the factors that contribute to other types of disasters such as biological, cosmological, or human-made disasters.
4. Describe the factors that tend to increase or decrease the severity of natural disasters, and what the effects of natural disasters are on human populations worldwide.

### **Textbook and Readings:**

The following OER free online textbook will also be used as an introduction to each module:

[Natural Disasters and Human Impacts](#)

### **Regular and Substantive Course Interaction**

As a general guide, students enrolled in a three-semester hour course should spend one hour engaged in instructional activities and two to three hours on out-of-class work per week in a traditional semester. Students are expected to double this effort of engagement given that this course is being delivered in a seven-week term. Educational activities in this course are designed to ensure regular and substantive interaction between students and faculty to ensure that students can demonstrate competency.

To be successful in this course, all content and course modules should be read and reviewed. All assignments and quizzes (both graded and not graded) should be completed. Please contact the instructor by email for any assistance.

### **Dropping the Course Due to Failure**

Students are NOT allowed to drop a course due to failure in the course. In the event a student does not make 80% or higher on a posttest or culminating project by the third attempt, the student is not allowed to drop the course due to failure. The student is also ineligible to accelerate or re-enroll/re-take the course in the current term.

To drop a course, students must have passing grades in the course or have not attempted any assignments in the course. Please reach out to an academic advisor to drop a course.

## **STUDENT RESPONSIBILITIES FOR COURSE**

### **Instructional Methods**

This course is an online course. To be successful in this course, all content and course modules should be read and reviewed. All assignments and quizzes (both graded and not graded) must be completed by the due date specified. Please contact the instructor by email for any assistance or support.

### **CWID and Password**

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

### **Technology-Related Issues**

Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

## **TECHNOLOGY REQUIREMENTS AND SUPPORT**

### **Minimal Technical Skills Needed**

Students will need reliable computer and internet access for this course. Students must be able to effectively use myLeo email, myLeo Online D2L, and Microsoft Office.

### **Learning Management System (LMS) – D2L**

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are the technical requirements:

- View the [Learning Management System Requirements Webpage](#).
- Learn more on the [LMS Browser Support Webpage](#).

### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at **1-877-325-7778**. Other support options can be found on the [Brightspace Support Webpage](#).

## **COMMUNICATION AND SUPPORT**

### **Interaction with Instructor Statement**

This is an online course; therefore, expect most communication to be online as well. If you have any questions or are having difficulties with the course material, please contact your instructor. Correspondence will always be through university email (your “myLeo” mail) and announcements in myLeo online (D2L). **You will not RECEIVE email through D2L, so be sure to check you TAMUC email for communication.** The instructor will make every effort to respond to emails within 24 provided the correspondence follows the requirements listed below. Students are encouraged to check university email daily.

### **Include the Following in Emails with Instructor:**

- Course name and subject in the subject line (ex. EDCB 517 – Posttest)
- Salutation (Good afternoon, Dr. Jackson)
- Proper email etiquette (no “text” emails – use proper grammar and punctuation)
- Student name and CWID after the body of the email (possibly add to student signature on email)

## **CID Studio**

The CID Studio is located in D2L and available to all CID students. The CID Studio contains modules intended to support and inform students on their educational journey.

[CID Studio Link](#) – Please contact your advisor if you need access.

### **RESPONSE TIME & GRADING TIME IN CBE COURSES**

Instructors for competency-based education courses are expected to respond to students in 24 hours. If you are not able to reach your instructor, please reach out to your advisor for help. The grading of assignments in courses will be done in a timely manner, but grading responses will not be returned in 24 hours.

### **ACCELERATION IN CBE COURSES**

Students enrolled in competency-based education courses in the College of Innovation and Design are permitted to accelerate from one CBE course to another during a seven-week academic term under certain conditions. The request to accelerate from one course to another must be initiated by the student upon successful completion of currently enrolled CBE courses. Students are responsible for maintaining communication with faculty and their assigned advisor(s) throughout the acceleration process. Students who fail a course or who drop/withdraw from a CBE course are not eligible for acceleration. Student may only request permission to accelerate in one course at a time. **Request to accelerate is initiated and completed by 5:00 pm CST on the fifth Friday of a seven-week academic term.**

### **Acceleration Process:**

1. Student successfully completes all required coursework in their CBE courses(s) with a grade of “A” or “B.”
2. Student receives emailed verification from the assigned instructor that the course has been satisfactorily completed (Grade of A or B only).
3. Student contacts assigned advisor to provide proof of completion and discuss eligibility for acceleration into another course.

### **COURSE AND UNIVERSITY PROCEDURES/POLICIES**

#### **Syllabus Change Policy**

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

### **Student Conduct**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail online in the [Student Guidebook](#).

Students should also consult the [Rules of Netiquette Webpage](#) for more information regarding how to interact with students in an online forum.

### **TAMUC Attendance**

For more information about the attendance policy, please view the [Attendance Webpage](#) and the [Class Attendance Policy](#)

### **Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

[Undergraduate Student Academic Dishonesty Form](#)

[Graduate Student Academic Dishonesty Form](#)

### **CID Policy on Academic Integrity**

Academic dishonesty includes cheating, complicity in cheating, multiple submissions (or substantial portions) of the same work for credit without authorization, submitting another's work, plagiarism, submitting algorithmically (AI) plagiarized work, and other acts that may reasonably be called academic dishonesty.

- Students who commit academic dishonesty will receive a grade of 0 for the assignment in the course and be issued a Written Warning that is reported to the CID Assistant Dean's office and listed in a database.
- If the student does NOT have a previous Written Warning for academic dishonesty reported in CID courses and has additional attempts available for the assignment, the student may resubmit the assignment (this applies to CBE courses only).
- If the student has a Written Warning of academic dishonesty reported in CID courses, the student may NOT resubmit the assignment, and the instructor will follow the procedure detailed in [Policy 13.99.99.R0.03](#) for Undergraduate Academic Dishonesty and report the incident to the Provost Office.

### **Submitting Past Work**

The resubmission of work submitted in a past course is self-plagiarism. Also, the resubmission of substantial parts of work submitted in a past course is self-plagiarism. **If a student would like to resubmit past work or substantial parts of past work, the student must gain**

**permission from the instructor prior to submission and cite the work properly.** If the student does not gain permission and cite the work, then the submission will be flagged for self-plagiarism and result in actions detailed in the CID Policy on Academic Integrity.

### **Use of Artificial Intelligence**

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources

### **Students with Disabilities-- ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

#### **Office of Student Disability Resources and Services**

Texas A&M University-Commerce

Velma K. Waters Library Rm 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information, or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

### **A&M-Commerce Supports Students' Mental Health – Counseling Services**

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)

### **Mental Health and Well-Being**

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.



## **COURSE ASSESSMENTS**

### **Requirement for Successfully Passing Course**

Students must achieve 80% or higher for **every** posttest **and** culminating project to demonstrate mastery of all competencies and pass the course.

### **Using Remaining Attempts to Improve Grade**

Students are permitted to use remaining attempts on a posttest and/or culminating project after scoring 80% or higher to attempt to make a higher score on the assignment. Students are not permitted to exceed 3 attempts for any posttest or culminating project.

- **Must** complete **all** required posttests and culminating project and receive a grade on the assignments before doing additional attempts.
- The **highest** grade achieved on the posttest or culminating project will be used for the **final grade** for the posttest and culminating project.
- Please keep in mind that submitting during the final days and hours of the term means that you may not have time to resubmit or receive feedback.
- Once you have accelerated out of the course and received a completion email, you may not return to the course to resubmit work.

### Pretest

The purpose of the pretest is to provide students with a baseline understanding of your knowledge in the competency. Pretests are taken once and should be completed upon the first couple of days of a CBE academic term or entry into a course if a student is an accelerator. The pretest is required before you begin studying course materials. A passing score on the pretest does NOT provide permission to skip required assignments in the course. The grade on the pretest does **not** count in the final grade for this course.

### Posttest

At the end of a module or course is a comprehensive exam that assesses student knowledge and understanding of major concepts, theories, processes, etc., in the module or the course. A **score of 80% or higher is required** to demonstrate mastery of the competency. If a student scores less than 80% on a posttest, the student will have an opportunity to review the material and retake the posttest two additional times. Students who fail the posttest should review feedback from the instructor before reattempting the posttest on another attempt. If the posttest score is less than 80% within three attempts, students will receive a grade of “F” in the course and will be required to retake the course in the new term. All posttests in the course have a due date: **Last day of week 7, Friday by 11:59 PM CST.**

### Culminating Project

The final project in the course assesses your knowledge of terms and the application of concepts presented in this course. A **score of 80% or higher is required** to demonstrate mastery of each competency. If students score less than 80% on the culminating project, they will have an opportunity to review the material and resubmit the project up to two additional times. If the culminating project is less than 80% within three attempts, students will receive a grade of F in the course and will be required to retake the course in the new term. **If you want feedback for revisions, submit by the end of week 6.** Culminating projects have a due date: **Last day of week 7, Friday by 11:59 PM CST.**

## **GRADING**

A score of 80% or higher on the Culminating Project and all Posttests is required to demonstrate mastery of the competencies and receive credit for the course. The following items will be used to calculate the final grade in the course.



| Item                             | Worth             |
|----------------------------------|-------------------|
| Posttest 1                       | 20 points         |
| Posttest 2                       | 20 points         |
| Posttest 3                       | 20 points         |
| Posttest 4                       | 20 points         |
| Culminating Project: Event Essay | 20 points         |
| <b>Total</b>                     | <b>100 points</b> |

**Grading Scale**

A = 90%-100%

B = 80%-89%

F = 79% or Below

**COURSE OUTLINE / CALENDAR**

Suggested Schedule

| Learning Objectives and Competencies   | Material to Review  | Assignments/Notes   |
|--|---|---|
| <b>Syllabus</b>  | Several Links to websites are embedded in each set of lecture notes. Pre-tests and post-tests will include information from these as well as from the lecture notes             | For each learning outcome, you will first take a pretest to measure your current level of knowledge in the competency, then read the lecture notes, and finish with a posttest. Your final project is a Natural Disaster Essay. |
| <b>Comp 1: Overview of Natural Disasters— Students will demonstrate knowledge of the different types of natural disasters, their relative impact on human populations, and the factors that can increase or decrease those impacts</b> |   |   |
| Learning Outcome 1   | Students will identify which types of natural disasters cause the most fatalities, where they cause the highest number of fatalities, and where the most economic damage occurs | In this section we see that, in the U.S., weather disasters top the list, while world-wide, geologic disasters are more significant   |
| Learning Outcome 2   | Students will list the five broad categories of natural disasters and the specific types of disasters within each category  | Here we categorize disasters into meteorological, geological, biological, cosmological, and human-caused  |
| Learning Outcome 3   | Students will list and explain several factors that either  | Here we learn factors that govern the   |

|  |  |   |
|--|--|---|
|  |  | severity of natural disasters, plus the   |
|  | mitigate or exacerbate natural disasters, including the stages of emergency response following a natural disaster  | sequence of events from preparation, thru the event, to response and recovery   |
| <b>Comp 2: Meteorological Hazards — Students will demonstrate a basic understanding of the science of both normal weather and weather disasters, and how humans can best cope with weather disasters</b> |  |   |
| Learning Outcome 1   | Students will explain the five keys to understanding the mechanisms that create the general weather patterns   | In this section, we look at atmospheric circulation, methods of uplift of air, adiabatic temperature changes, humidity, air masses and fronts       |
| Learning Outcome 2   | Students will describe three reasons why extreme weather sometimes occurs  | This section discusses changes in atmospheric chemistry, jet stream, and El Niño  |
| Learning Outcome 3   | Students will describe the formation of severe storms, tornadoes, hurricanes, and other weather-related disasters, and how people can best deal with them  | Here we discuss tornadoes, hurricanes, floods, wildfire, drought, extreme heat, and extreme cold  |
| <b>Comp 3: Geologic Disasters — Students will be able to explain the causes of the major types of geologic disasters</b>   |  |   |
| Learning Outcome 1   | Students will describe the driving force of plate tectonics, the different types of tectonic plate boundaries, and the cause of earthquakes and volcanoes as they relate to plate boundaries and motions | This section discusses the structure of Earth and the dynamic processes of plate tectonics as they relate to many of the geologic natural disasters |
| Learning Outcome 2   | Students will explain the differences, and the reasons for the differences between the two broad types of volcanoes  | We look at how plate tectonic setting causes some volcanoes to be relatively gentle while others are deadly and disastrous                          |
| Learning Outcome 3   | Students will explain the characteristics of tsunami   | This section discusses the cause, behavior, and effects of tsunami  |

|   |  |  |
|---|--|--|
| Learning Outcome 4  | Students will describe other types of geologic hazards including mass wasting, soil erosion, coastal erosion, sinkholes, land subsidence, and the specific disaster of Lake Nyos | Several smaller-scale or slower- scale geologic disasters are discussed here, plus an unusual type of disaster illustrated by the Lake Nyos incident in 1986   |
| <b>Comp 4: Biological, Cosmological &amp; Unnatural Disasters — Students will demonstrate a basic understanding of major biological, cosmological, and unnatural (human caused) hazards and disasters</b> |  |  |
| Learning Outcome 1  | Students will describe what invasive species are, why they are a problem, list several specific invasive species, and explain the difference                                     | In this section we focus on the ecology- disrupting problem of invasive species, and characteristics that define them and make them a greater worldwide threat than periodic pest plagues, such as locusts or fungi problems |
|   | between an invasive species and a pest plague  |  |
| Learning Outcome 2  | Students will differentiate between human disease epidemics and pandemics, and list examples of current or past pandemics  | Here we view several past epidemics & pandemics, and look more closely at the current threats of HIV, Ebola, and the COVID-19 viruses  |
| Learning Outcome 3  | Students will explain the relevant factors in the potential disasters of major meteorite strikes and Earth magnetic reversals  | In this section, we see that the potential for a disastrous meteorite strike is close to zero, as are the doomsday predictions related to a flip in Earth's magnetic poles   |
| Learning Outcome 4  | Students will list several past human-caused major disasters   | People have created numerous disasters, mostly in the form of hazardous chemical releases—accidental or purposeful—and some due to human interference with nature  |

|                            |   |   |
|----------------------------|---|---|
| Culminating Project: Essay | 3-5 page essay over the Natural Disaster topic of your choice that has occurred within your lifetime. | A link is embedded in the assignment details that outlines FEMA.gov declared natural disasters that have occurred within your lifetime. |
|----------------------------|---|---|

- ***Acceleration Process Deadline: The deadline to accelerate is the 5<sup>th</sup> Friday, by 5 pm. Please submit assignments to me no later than the 5<sup>th</sup> Wednesday, by 5 pm if you are attempting to accelerate so that I have ample time to grade them and provide you with a completion email for acceleration purposes.***
- **All assignments must be submitted by 11:59PM/CST on the Friday of Week 7 of the term.**
- A score of 80% or higher on the Culminating Project and all Posttests is required to demonstrate competency and receive credit for the course.
- **Tip:** After a failed attempt at a posttest or the culminating project, review feedback provided by your instructor and/or reach out to your instructor with questions before moving to the next attempt.