



# ENVS 103 Natural Disasters

COURSE SYLLABUS: Spring 2021

## INSTRUCTOR INFORMATION

**Instructor:** Katrina Starr, MS | Adjunct Instructor  
**Office Location:** Online Only  
**Office Hours: Friday Mornings** (8:00-10:00 A.M.)  
**Office Phone:** 903.468.3318 (Advising Main Office)  
**Office Fax:** 903.468.3323  
**University Email Address:** Katrina.Starr@tamuc.edu  
**Preferred Form of Communication:** Exclusively e-mail  
**Communication Response Time:** Check e-mail every 24-48 hours.

## Purpose

This syllabus provides course information, which includes materials required for the course, the course description, and student learning outcomes (LOs) to help you navigate the course and complete requirements.

## Introduction

Welcome to Environmental Science-Natural Disasters for the Fall 2020 term. My name is Instructor Starr and I am excited to embark on this learning journey with you! In this course, you will identify the common natural disasters that occur on a global scale, their relative impact on human populations, and the factors that can increase or decrease those impacts. In addition, we will study geological, meteorological, major biological, cosmological, and unnatural (human caused) hazards and disasters. In each event, you will gain an understanding on how to anticipate, prepare for and rebound from each type of natural disaster.

My goal is to help you successfully pass this course and communication along the way is key. All information is presented on an online platform; therefore, we will also communicate 100% online. I encourage you to reach out to your fellow classmates for thought-sharing and problem-solving ideas in the Student Lounge section of the course. Also, I am available anytime via email: katrina.starr@tamuc.edu. I will respond within 24-hours.

## Course Objective:

This course is designed to increase your awareness about global natural disasters and to provide a natural disasters overview. Emphasis is placed on understanding on the mechanisms of why natural disasters occur, and how you can personally prepare to minimize the negative effects of natural disasters that might occur in the area in which you live. Discussions will include meteorological, geological, biological, and cosmological natural disasters, plus a brief look at human-caused disasters.

## Student Learning Objectives

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.

Content	Description	Notes
Syllabus	For each learning outcome, you will first take a pre-test to measure your current level of knowledge in the competency, then read the lecture notes, and finish with a post-test	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
<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	Here we categorize disasters into meteorological, geological, biological, cosmological, and

	disasters within each category	human-caused
Learning Outcome 3	Students will list and explain several factors that either mitigate or exacerbate natural disasters, including the stages of emergency response following a natural disaster	Here we learn factors that govern the severity of natural disasters, plus the 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 between an invasive species and a pest plague	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
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 and Ebola virus
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

### Timeline of Assignments:

You will have a total of 7-weeks to complete and successfully pass all competencies with an average score of 80% or better. It is strongly recommended that you complete each competency every 1.5 weeks in order to allow ample time to take any retest(s) required on your final week of the course.

A Pre-Test for each competency is required before you begin your reading material in order to test your knowledge and help you to gain insight into the subject. This will not count towards your final weighted average; however, it is MANDATORY in order to successfully pass this course.

You will have a Post-Test at the end of each section with an opportunity to retest up to two more times if needed. I will accept the highest grade attempted and you must score at least an 80% in order to successfully pass this course. **ALL POST-TESTS MUST BE COMPLETED WITH A SCORE OF 80% OR HIGHER BY FRIDAY, OCTOBER 16, 2020 BY 5 PM (CST) IN ORDER TO SUCCESSFULLY MASTER THIS COURSE!**

A final discussion question will be posted; please respond accordingly for additional credit towards your final weighted average.

## **Technology Requirements**

This is an online course and the following technological resources are required:

- Computer/Internet access and connection: high-speed preferred (not dial up)

This course may also require the following:

As a student enrolled at Texas A&M University-Commerce, you have access to an email account via myLeo - all my emails sent from eCollege (and all other university emails) will go to this account, so please be sure to check it regularly. Conversely, you are to email me via the eCollege email system or your myLeo email as our spam filters will catch Yahoo, Hotmail, etc.

Our campus is optimized to work in a Microsoft Windows environment. This means our courses work best if you are using a Windows operating system

(XP or newer) and a recent version of Microsoft Internet Explorer (6.0, 7.0, or 8.0).

Your courses will also work with Macintosh OS X along with a recent version of Safari 2.0 or better. Along with Internet Explorer and Safari, eCollege also supports the Firefox browser (3.0) on both Windows and Mac operating systems.

It is strongly recommended that you perform a "Browser Test" prior to the start of your course. To launch a browser test, login in to eCollege, click on the 'myCourses' tab, and then select the "Browser Test" link under Support Services.

### **Access and Navigation**

This course will be facilitated using eCollege, the Learning Management System used by Texas A&M University-Commerce. To get started with the course, go to: <https://leo.tamu-commerce.edu/login.aspx>.

You will need your CWID and password to log in to the course. If you do not know your CWID or have forgotten your password, contact Technology Services at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

### **eCollege Student Technical Support**

Texas A&M University-Commerce provides students technical support in the use of eCollege. The student help desk may be reached by the following means 24 hours a day, seven days a week.

- Chat Support: Click on 'Live Support' on the tool bar within your course to chat with an eCollege Representative.
- Phone: 1-866-656-5511 (Toll Free) to speak with an eCollege Technical Support Representative.
- Email: [helpdesk@online.tamuc.org](mailto:helpdesk@online.tamuc.org) to initiate a support request with an eCollege Technical Support Representative.
- Help: Click on the 'Help' button on the toolbar for information regarding working with eCollege (i.e. How to submit to Dropbox, How to post to discussions, etc.)

### **Course Concerns**

If you have questions pertaining to the content of this course (e.g., questions about an exam, about course due dates, etc.), please contact your instructor, Katrina Starr, via email using the Email tab at the top of the window.

### **Other Questions/Concerns**

Contact the appropriate TAMU-C department related to your questions/concerns. If you are unable to reach the appropriate department with questions regarding your course enrollment, billing, advising, or financial aid, please call 903-886-5511 between the hours of 8:00 a.m.- 5:00 p.m., Monday through Friday.)

### **Communication and Support**

Email is the best way to communicate with me because I am always have it open on my office computer. Even when I'm not in the office, I check it many times each day.

### **Course and University Procedures/Policies**

#### **Academic Honesty Policy**

Texas A&M University-Commerce does not tolerate plagiarism and other forms of academic dishonesty. Conduct that violates generally accepted standards of academic honesty is defined as academic dishonesty. "Academic dishonesty" includes, but is not limited to, plagiarism (the appropriation or stealing of the ideas or words of another and passing them off as one's own), cheating on exams or other course assignments, collusion (the unauthorized collaboration with others in preparing course assignments), and abuse (destruction, defacing, or removal) of resource material. Violation of these academic standards may result in removal or failure. Please see the TAMU-C Catalog.

#### **Dropping the Class**

If you need to adjust your schedule by dropping this course, please contact your Academic Advisor. Please be aware that dropping your course may impact your financial aid, veterans and military benefits, three peat, 45-hour, and 30-hour rules. It is the student's responsibility to drop the course. If you fail to officially drop the class, a failing grade shall be assigned.

#### **Incompletes**

If you receive a grade of "X" or Incomplete you have one full term to complete the items that remain incomplete. If you have not submitted the necessary assignments by the end of the next full term your grade automatically converts to an "F."

#### **Student Withdrawal**

A student wishing to withdraw from all courses before the end of a term for which he/she is registered must clear his or her record by filing an application for voluntary withdrawal. Please contact your Academic Coach.

This action must be taken by the date stated in the Academic Calendar as the last day to drop a class or withdraw. Any student who withdraws from the university is subject to the conditions outlined in the section regarding Scholastic Probation or Suspension in the university catalog. It is the student's responsibility to withdraw from classes if he or she does not plan to attend during the semester in he/she has enrolled. A student has one year from the first day of a semester to appeal a withdrawal refund. Courses withdrawn are counted as attempted hours and count towards the three-peat, 45-hour and 30-hour rules and financial aid and veterans and military benefits.

### **Instructor Withdrawal**

Your instructor of record reserves the right to withdraw a student from his or her course based on inadequate access to and progress in the online course materials.

### **Students with Disabilities**

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

Gee Library 132

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

Fax (903) 468-8148

[StudentDisabilityServices@tamuc.edu](mailto:StudentDisabilityServices@tamuc.edu)

[Student Disability Resources & Services](#)

### **Student Conduct**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See '[Code of Student Conduct](#)' from Student Guide Handbook)