

**Core Curriculum
Course Proposal Cover Sheet**

Department: Chemistry, Geosciences and Environmental Science
College: COST
Department Head: Dr. Arthur Low

Course Prefix & Number: GEOL 108

Course Title: Natural Disasters

Course Description: Course focuses on the causes, effects, and mitigation of natural disasters around the world. Topics covered will include: plate tectonics, earthquakes, volcanoes, tsunamis, landslides, meteor impacts, climate change, and major weather events such as tornadoes, floods, and hurricanes. Emphasis will be on methods used by scientists to monitor and study these natural phenomena, as well as the economic and societal impact of and response to the events.

Please select the THECB Foundational Component Area for which this course is being submitted. (Please select only one)

Life and Physical Sciences

Checklist:

Course Proposal Cover Sheet

Foundational Component Area Justification Form

Student Learning Outcome Alignment Form

LIFE AND PHYSICAL SCIENCES

FOUNDATIONAL COMPONENT AREA JUSTIFICATION FORM

Rationale: Please provide a rationale for the course which explains how the course being proposed fits into this component based on the component's description. For your convenience, the overall description and rationale for this component are included below.

Life and Physical Sciences (from THECB Chapter 4: 4.28)

- Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method.
- Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.
- The following four Core Objectives must be addressed in each course approved to fulfill this category requirement: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, and Teamwork.
 - Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information;
 - Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication;
 - Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions;
 - Teamwork: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Rationale for Inclusion in this Category:

Natural Disasters is a basic science addressing the mechanisms that drive natural disasters, the effects of natural disasters and mitigation of natural disasters. It includes an understanding of the scientific method and earth and meteorological processes and how these affect populations.

STUDENT LEARNING OUTCOME ALIGNMENT FORM
Life and Physical Sciences

Course Prefix/Number: GEOL 108

Course Title: Natural Disasters

Core Objective: Critical Thinking CT1: Students will evaluate evidence in analysis, interpretation or arguments

Course SLO(s): Students will evaluate evidence in analysis, interpretation or arguments

Learning Activities: Students will analyze graphical information and interpret graphs to answer questions related to the occurrence, effects and mitigation of Natural Disasters.

Means of Assessment: Students will answer exam questions related to graphical analysis.

Core Objective: Critical Thinking CT2: Students will synthesize varied components of information to form a rational conclusion.

Course SLO(s): Students will synthesize varied components of information to form a rational conclusion

Learning Activities: Students will bring together multiple sources of data such as locations of earthquakes and volcanoes, to analyze the interaction of plate boundaries and understand the effects of plate tectonics.

Means of Assessment: Students will answer questions related to plate tectonics on the lab activity.

Core Objective: Communication C1: Students will express ideas in written, visual or oral forms to a range of diverse audiences in multiple settings.

Course SLO(s): Students will express ideas in written, visual or oral forms to a range of diverse audiences in multiple settings.

Learning Activities: Students will submit a 1-2 page written report on a natural disaster.

Means of Assessment: A written communication rubric evaluating grammar, organization and content will be used.

Core Objective: Empirical and Quantitative EQS1: Students will gather, interpret or use numerical data/observable facts to arrive at an informed conclusion.

Course SLO(s): Students will gather, interpret or use numerical data/observable facts to arrive at an informed conclusion.

Learning Activities: Students will have to determine the rate of movement of a tectonic plate and will have to calculate flooding probability.

Means of Assessment: Students will have to answer questions on the lab exercise.

Core Objective: Teamwork TW1: Students will work in coordination to complete specific tasks.

Course SLO(s): Students will work in coordination to complete specific tasks.

Learning Activities: Students will work in teams to analyze slope and sediment stability models.

Means of Assessment: The students will be evaluated on teamwork through a peer evaluation rubric.

As department head, I will ensure that all faculty that teach this course are aware of the requirements that these core objectives and learning strategies be incorporated into the above referenced course. This action is taken so that Tarleton State University will be in compliance with Texas Higher Education Coordinating Board foundational component area and core objective requirements for the General Education Core Curriculum.

Signature_____

We, the undersigned faculty, support the proposed changes to this course and agree to incorporate them into our section of the above referenced course. This action is taken so that Tarleton State University will be in compliance with Texas Higher Education Coordinating Board foundational component area and core objective requirements for the General Education Core Curriculum.

(Signed document should be kept in department office, listing names below on the electronic document implies acceptance)

Ms. Joree Burnett