

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:

Environmental Science is a basic science addressing human-ecosystem interactions on Earth. It includes an understanding of scientific methods and the important effects human activities have on the environment.

STUDENT LEARNING OUTCOME ALIGNMENT FORM
Life and Physical Sciences

Course Prefix/Number: GEOL 107

Course Title: Introduction to Environmental Science

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

Course SLO(s): Students will analyze and evaluate trends in human population data. Interpretation of data will be used to assess possible growth, and resource allocation outcomes.

Learning Activities: U.S. census bureau data for various years will be used to construct graphs of possible population growths. Graphs of several different population groups will be constructed. Possible future human populations outcomes will be analyzed. Outcomes will be used to examine issues with respect to resource allocation.

Means of Assessment: Graphs and questions on laboratory exercises. Imbedded questions in exams.

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

Course SLO(s): Soil and water chemistry will be assessed to determine the relative chemical health of an ecosystem.

Learning Activities: Students will collect soil and water from an environment. Observations of biota in an ecosystem will be observed. Various chemical characteristics will be analyzed. The data will be examined to determine the amount of biomass the ecosystem should support.

Means of Assessment: Graphs, questions, and conclusions on lab exercises. Imbedded questions on exams.

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 assemble an oral presentation about a current environmental issue. The students will construct a visual aid to highlight their presentation.

Learning Activities: Students research information, assemble an oral presentation with a visual aid, and deliver their presentation.

Means of Assessment: The presentation will be evaluated using a rubric in terms of length, delivery, and content. The visual aid will be evaluated with a rubric in terms of relevance to the topic.

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 use data to determine if Stephenville has become a healthier place to live over time.

Learning Activities: Students collect birth dates and death dates from tombstones in local cemeteries. Life spans are calculated for various decades. Graphs are constructed from the data. Students use the data plus historical information to assess possible changes in the health of the population over time.

Means of Assessment: Graphs, questions and conclusions in lab exercises. Imbedded questions in exams.

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

Course SLO(s): Students will work successfully in teams.

Learning Activities: Teams are assigned at the beginning of the semester. Students complete a number of group exercises.

Means of Assessment: Completion of exercises by all members of a group. Group assessments of individual members of their team.

Additional objectives at the discretion of the department.

Core Objective: (

Course SLO(s):

Learning Activities

Means of Assessment

Core Objective:

Course SLO(s):

Learning Activities

Means of Assessment

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)