Core Curriculum
Course Proposal Cover Sheet

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

Course Prefix & Number: GEOL 105
Course Title: Physical Geology
Course Description: An introduction to the physical processes that operate in and on the planet Earth. Topics of discussion include: the Earth's structure, rocks and minerals, volcanoes, earthquakes, groundwater, rivers, glaciers, and deserts.

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:

Physical Geology is a basic science addressing the physical processes that operate in and on the planet Earth. It includes an understanding of scientific methods and the impacts that geology has on our daily lives.

STUDENT LEARNING OUTCOME ALIGNMENT FORM
Life and Physical Sciences

Course Prefix/Number: GEOL105
Course Title: Physical Geology

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

Course SLO(s): CT1: Students will evaluate evidence in analysis, and interpretation.

Learning Activities: Students will use a variety of observations to correctly identify rocks minerals, and geologic structures.

Means of Assessment:
Exam questions related to identification.

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

Course SLO(s): CT2: Students will synthesize varied components of information to form a rational conclusion.

Learning Activities: Students will be taught how to read topographic maps and recognize landscape characteristics on these maps. Labs related to topographic map reading and interpretation for fluvial and groundwater topics.

Means of Assessment:
Exam questions related to analysis of information on topographic maps.

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): C1: Students will orally express ideas on geological issues.

Learning Activities
Students will give a 5 min presentation on a geologic topic based on a short article in a geologic journal.

Means of Assessment: Oral communication rubric (attached)

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 be able-solve quantitative problems relating to groundwater flow velocities and water table slope. Students will observe and interpret graphical presentation of data.

Means of Assessment
Questions on lab sheets, embedded exam questions

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

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

Learning Activities
Coordination within lab groups which will be assigned for each lab.

Means of Assessment
A rubric will be used for peer evaluation twice during the semester.
Impact of group work will be evaluated by assessing individual performance versus group performance on lab scores.

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)

Dr. Carol Thompson
Dr. Phil Murry
Dr. Stephen Field