# 1/4/2023

# brcc keystone logo

Baton Rouge Community College

*Academic Affairs Master Syllabus*

Date Approved: 2 February 2023

Term and Year of Implementation: Spring 2023

**Course Title:** Physical Geology

**BRCC Course Rubric:** GEOL 1103

**Previous Course Rubric**: GEOL 101

**Lecture Hours per week-Lab Hours per week-Credit Hours**: 3-0-3

**Per semester: Lecture Hours-Lab Hours-Instructional Contact Hours**: 45-0-45

**Louisiana Common Course Number:** CGEO 1103

**CIP Code:** 40.0601

**Course Description:** Covers Earth materials, land forms and dynamic processes. Topics include igneous activity, volcanoes, metamorphism, weathering and erosion, deposition of sediment, the formation of sedimentary rocks, mountain building, earthquakes, glaciations, streams, and oceans.

**Prerequisites:**  None

**Co-requisites:** None

**Suggested Enrollment Cap:** 30

**Learning Outcomes.** *Upon successful completion of this course, the students will be able to:*

1. Describe the origin and geological history of the Earth and solar system including knowledge of the geological time scale.

2. Identify the origin of common minerals and rocks, and describe the rock cycle.

3. Describe the interior structure of the Earth and internal earth processes including igneous activity and rock deformation.

4. Explain plate tectonics and the formation of the continents and ocean basins.

5. Describe surface geological processes that cause erosion, transport and deposition of sediment; especially from rivers, coasts, glaciers and deserts.

**General Education Learning Outcome(s):** This course supports the development of competency in the following area(s). Students will:

Apply scientific concepts to explain the natural world. (General Education Competency: Scientific Reasoning)

**Assessment Measures.** Assessment of all learning outcomes will be measured using the following methods:

1. Administration of unit exams during the semester and a comprehensive final exam at the end of the semester.

2. Instructor-designed assignments including, but not limited to, written and oral assignments, projects, homework, and quizzes. All assignments will be graded using an instructor-designed rubric.

**Information to be included on the Instructor’s Course Syllabi:**

* ***Disability Statement*:** Baton Rouge Community College seeks to meet the needs of its students in many ways. See the Office of Disability Services to receive suggestions for disability statements that should be included in each syllabus.
* ***Grading:*** The College grading policy should be included in the course syllabus. Any special practices should also go here. This should include the instructor’s and/or the department’s policy for make-up work. For example in a speech course, “Speeches not given on due date will receive no grade higher than a sixty” or “Make-up work will not be accepted after the last day of class”.
* ***Attendance Policy*:** Include the overall attendance policy of the college. Instructors may want to add additional information in individual syllabi to meet the needs of their courses.
* ***General Policies*:** Instructors’ policy on the use of things such as beepers and cell phones and/or hand held programmable calculators should be covered in this section.
* ***Cheating and Plagiarism*:** This must be included in all syllabi and should include the penalties for incidents in a given class. Students should have a clear idea of what constitutes cheating in a given course.
* ***Safety Concerns:*** In some courses, this may be a major issue. For example, “No student will be allowed in the lab without safety glasses”. General statements such as, “Items that may be harmful to one’s self or others should not be brought to class”.
* ***Library/ Learning Resources:*** Since the development of the total person is part of our mission, assignments in the library and/or the Learning Resources Center should be included to assist students in enhancing skills and in using resources. Students should be encouraged to use the library for reading enjoyment as part of lifelong learning.

**Expanded Course Outline:**

I. The origin and history of the earth

A. Origin of the solar system

B. Evolution of Earth

i. Planetary differentiation

ii. Formation of continents, oceans, and atmosphere

II. Plate tectonics - the unifying theory of earth science

III. The material of the earth

A. Minerals

i. Chemical bonding, properties, rock forming minerals

B. Rocks

i. Magmas and igneous rocks

ii. Weathering and sedimentary rocks

iii. Metamorphism and metamorphic rocks

C. Rock record and geological time scale

IV. Surface processes

A. Hydrologic cycle and the ground water system

B. Rivers

i. Transport of material to the ocean

ii. Stream deposition

iii. Coastal land loss

C. Glaciers and ice ages

D. The oceans

i. The structure of ocean basin

ii. Seawater

iii. Deep Sea sediments

V. Internal processes

A. Global tectonic processes

i. Continental drift

ii. Seafloor spreading

B. Volcanism

C. Earthquakes

D. The interior structure of the earth

E. The continents

i. Mountain building

ii. Deformation of the crust