

**STATE UNIVERSITY OF NEW YORK  
COLLEGE OF TECHNOLOGY  
CANTON, NEW YORK**

**COURSE OUTLINE**

**GEOL 101 - PHYSICAL GEOLOGY**

**Prepared By: ERWIN SELLECK**

**CANINO SCHOOL OF ENGINEERING TECHNOLOGY  
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A. **TITLE:** Physical Geology

B. **COURSE NUMBER:** GEOL 101  
**SHORT TITLE** Geology

C. **CREDIT HOURS:** 3

D. **WRITING INTENSIVE COURSE:** NA

E. **COURSE LENGTH:** 15 weeks

F. **SEMESTER(S) OFFERED:** Fall and Spring

G. **HOURS OF LECTURE:** 3 LECTRUES PER WEEK OR EQUIVALENT

H. **CATALOGUE DESCRIPTION:**

This course will take a general look at the earth including its composition and structure on a large scale. The processes that cause changes in and on the earth will also be studied. Topics will include the study of minerals and rocks, the origin and types of rocks, the rock cycle and the identification of many of the common rocks and minerals. Other topics include geological time, weathering, erosion, glaciers, running water, volcanoes, earthquakes, plate tectonics and geological work.

I. **PRE-REQUISITES:** None

**CO-COURSES:** None

J. **GOALS (STUDENT LEARNING OUTCOMES):**

By the end of this course, the student will:

<b><u>Course Objective</u></b>	<b><u>Institutional SLO</u></b>
1. Examine and identify specific minerals, igneous rocks, sedimentary rocks and metamorphic rocks.	2. Critical Thinking
2. Explain the origins of various rock textures and compositions.	2. Critical Thinking
3. Use plate tectonics to describe mountain building, the origins of earthquakes and volcanism.	2. Critical Thinking
4. Describe geological work as it is related to glaciation, river formation, mass wasting and wind erosion.	2. Critical Thinking
5. Describe how the layers of the earth are interpreted from seismic waves.	2. Critical Thinking
6. Describe the rock cycle.	2. Critical Thinking
7. Describe how absolute geological age is determined.	2. Critical Thinking
8. Rank rock strata according to relative geological age.	2. Critical Thinking

K. **TEXTS:** **Physical Geology** by Plummer, Carlson and McGeary, 11 ed. McGraw-Hill, 2007

- L. **REFERENCE: Earth: Portrait of a Planet** by Marshak and Prothero , WW Norton , 2001
- M. **EQUIPMENT:** Computer with internet browser and server
- N. **GRADING METHOD.:** (P/F, A-F, etc.): A-F
- O. **MEASUREMENT CRITERIA/METHODS:** The final grade will be based on the total score accumulated from graded quizzes, exercises and essays.
- P. **DETAILED TOPICAL OUTLINE:**
  - I. Course Procedures
    - a. Welcome
    - b. Course Procedures
    - c. Working with the Internet
    - d. FAQ's
  - II. Rocks and Minerals
    - a. Minerals and Mineral Property
    - b. Igneous Rocks
    - c. Sedimentary Rocks
    - d. Metamorphic Rocks
    - e. The Rock Cycle
    - f. Rock Identification
  - III. Geological Time
    - a. Absolute Dating of Rocks
    - b. Relative Rating of Rocks
    - c. Earth History - Pre-Cambrian time to now
  - IV. Mountain Building
    - a. Evidence of Continental Drift
    - b. Plate Tectonics
    - c. Earthquakes
    - d. Seismic Waves and the Earth's Interior
    - e. Volcanism
    - f. Hot Spots
  - V. Geological Work
    - a. Defining Geological work
    - b. Mass Wasting
    - c. Glaciers and Glaciation
    - d. Running Water
    - e. Wind

f. Desert Topography

VI. Oceans

- a. Shore Line Features
- b. The Ocean Floor
- c. Surface and deep currents
- d. Ocean Resources

Q. **LABORATORY:** NA