

**JAMESTOWN COMMUNITY COLLEGE**  
**State University of New York**

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**INSTITUTIONAL COURSE SYLLABUS**

**Course Title:** Earth Science

**Course Abbreviation and Number:** GLG 1550

**Credit Hours:** 3

**Course Type:** Lecture

**Course Description:** Students will identify and explain basic concepts in geology, oceanography, and meteorology, including mineral and rock formation, plate tectonics, mountain building, weathering and soils, erosional and depositional processes, geologic hazards, oceans, and the atmosphere. Optional field experiences are offered. This is an introductory course for students with little or no science background.

**Eligibility:** ENG 1510 without supports or Corequisite: ENG 1510 with supports.

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**General Education Requirements Met**

**SUNY**

Natural Sciences

**JCC**

Scientific Reasoning

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**Student Learning Outcomes:**

Students who demonstrate understanding can:

1. Apply and/or discuss important definitions, concepts, compositions, and identities of common minerals and rocks.
  2. Apply and/or discuss concepts, and theories related to glaciation, including the timing of the last glaciation and its effect on the landscape in New York State.
  3. Apply and/or discuss important definitions, concepts, and theories related to geologic time and age-dating.
  4. Apply and/or discuss important definitions, concepts, and structures related to the ocean's water and the ocean floor.
  5. Apply and/or discuss how knowledge of seafloor sediment offers evidence of climatic conditions and change.
  6. Apply and/or discuss important definitions, concepts, and theories related to the structure of the atmosphere.
  7. Apply and/or discuss important definitions, concepts, and theories related to the measurement, origin (causes), classification, and mapping of winds (and cyclones).
  8. Apply and/or discuss important definitions, concepts, and theories related to air masses, fronts, their inter-relationships that cause weather patterns, and the mapping of these fronts and patterns.
  9. Apply and/or discuss important definitions, concepts and theories related to phases of water, humidity, cloud formation/classification, atmospheric stability/instability, condensation, forms of precipitation.
  10. Apply and/or discuss important definitions and concepts related to planetary motion, heliocentric (vs. geocentric) models of the universe, timing of planetary orbits, lunar phases, eclipses, structures and features of the Sun.
  11. Apply and/or discuss important definitions, concepts, and theories related to classification of stars, the structure and characteristics of the Milky Way Galaxy, and star's utility in deciphering the universe's history, evolution, and structure.
  12. Apply and/or discuss important definitions and concepts related to the Big Bang.
  13. Demonstrate an understanding of the methods scientists use to explore natural phenomena, including observation, hypotheses development, measurement and data collection, experimentation, evaluation of evidence, and employment of data analysis or mathematical modeling. [SUNY Gen Ed – Natural Sciences]
  14. Application of scientific data, concepts, and models in one of the natural sciences. [SUNY Gen Ed – Natural Sciences]
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**Topics Covered:**

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|---------------------------|--------------------------|----------------------------|
| • Introduction            | • Plate Tectonics        | • Heating the Atmosphere   |
| • Minerals                | • Earthquakes, Mountains | • Clouds and Precipitation |
| • Rocks                   | • Volcanoes              | • Wind                     |
| • Streams and Groundwater | • Geologic Time          | • Weather                  |
| • Glaciers and Deserts    | • Oceanography           |                            |
| • Interior of the Earth   | • Oceans                 |                            |
| • Astronomy               |                          |                            |

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## Information for Students

- Expectations of Students
  - [Civility Statement](#)
  - [Student Responsibility Statement](#)
  - [Academic Integrity Statement](#)
- [Accessibility Services](#)

Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.
- [Get Help: JCC & Community Resources](#)
- [Emergency Closing Procedures](#)
- Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0
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- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.

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**Effective Date:** Fall 2023