

COURSE DESCRIPTION

Earth Science class involves the study of the forces that have molded the Earth and the universe. The geology of the Earth, the chemistry and identification of minerals, the interpretation of topographic maps, the physics of stars and planets and various topics in meteorology, oceanography and paleontology are also integral components of this course

I. Materials needed for class

- 2in binder
- Class Handouts
- A calculator
- Assignment pad

You will receive many materials throughout the year. It is very important that you organize your materials and keep them in one place. **Materials not needed for class:**

II. Laboratory

NY State requires all students complete 1200 minutes of lab work (roughly 30 labs) to sit for the Regent's exam in June. All students must have 15 labs completed by January. You have one week to make up the missed labs. After one week, no labs will be accepted.

III. Attendance Policy

If you are absent, it is your responsibility to determine what you have missed and make up for the work by checking the class website. **Every 3 unexcused lateness will result in the loss of 1% of the quarter grade.**

IV. Book Policy (DO NOT LOOSE YOUR BOOK!!!!!!!!!!)

You will not be given next year's textbook until you have returned this year's textbook. It is your responsibility to secure your book in order to prevent loss or theft.

V. Grading System:

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|------------------------------|---|
| 1) Test (35-40points) | 2) Quizzes (20-30points) |
| 3) Lab packets (10-30points) | 4) Participation(10points) <ol style="list-style-type: none">1. Involvement in class discussion2. Respectfulness3. Homework |

Regents Exam: 20% of the 4th quarter grade

Extra Help:

Monday - Thursday (Zhou) C111 or by appointment

Contact Information:

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COURSE OUTLINE

Meteorology:

Topic I **Weather**

1. Atmosphere layers
2. Atmospheric temperature
3. Atmospheric pressure and wind
4. Atmospheric moisture
5. Air masses and fronts
6. Weather maps
7. Severe weather and preparation
8. Station Models

Topic II **Climate**

1. The water cycle
2. Local water budget
3. Groundwater
4. Rainshadow effect
5. Local and Planetary wind
6. Green house effect
7. Ocean currents
8. Specific heat and energy transfer

Geology

Topic V **Mineral Identification**

Topic VI **Interior of Earth**

1. Formation of Volcanoes
2. Types of volcanoes
3. Formation of Igneous rocks
4. Characteristics of igneous rocks
5. Identification of igneous rocks

Topic VII **Weathering, Erosion and deposition**

1. Types of weathering
2. Characteristics of an erosional-depositional system
3. Grand Canyon
4. Oxbow lake
5. Factors of deposition
6. Sorting of sediments
7. Coastal process of features

Topic VIII Plate Tectonics

1. Evidence of crustal change
2. Cause and result of earthquake
3. Calculating of p and s wave
4. Tsunami
5. Metamorphic

Topic VIIV Geomorphology

1. Measuring landscape Characteristics
2. Effects of Climate on landscape development
3. Landscape region
4. Drainage basin
5. Glaciations
6. Time period project

Topic X Measuring the Earth

1. Locating positions on the Earth
2. Fields
4. Using topographic maps

Topic XI Interpreting Geologic History

1. Relative dating of rocks and events
2. Correlation
3. Geologic history from the rock record
4. Absolute dating of rocks using radioactive decay
5. **Final project on geologic timeline**

Astronomy

Topic III The Earth's Motion

1. Rotation of the Earth
2. Revolution of the Earth
3. Time and Earth motions
4. Variation in insolation
5. Reason for season

Topic IV Earth in space

1. Planets, comets, meteors, asteroids
2. Earth's moon, craters
3. H-R Diagram & life cycle of a star
4. Nuclear fusion
5. Origin of the universe and cosmic radiation