

Matter and Minerals (05/06)

Academic Fair Handout

Faculty:

Dr. Dharshi Bopegedera (chemist)	bopegedd@evergreen.edu	867-6620
Dr. James Stroh (geologist)	strohj@evergreen.edu	867-6762
Dr. Rachel Hastings (mathematician)	Not available (new faculty)	Not available (new faculty)

Class Standing: Well prepared freshman (please contact faculty) and above. Transfer students welcome.

Prerequisites: Strong critical thinking skills, proficiency in pre-calculus and trigonometry. We will be teaching calculus, starting in the fall quarter. We will do a brief review of pre-calculus during the first two weeks of the fall quarter.

Program Web Site: <http://academic.evergreen.edu/curricular/mandm05/>

Please check regularly for updates.

Texts:

- “Chemistry”, latest edition by Steven Zumdahl & Susan Zumdahl, Houghton Mifflin Co. , New York, **Required on the first day of class.**
- “Mineral Science”, latest edition by Cornelis Klein, John Wiley & Sons, New York, **Required on the first day of class.**
- A general physical geology text such as “Understanding Earth”, 4th Edition by Press and Siever (Freeman Co.) is good, but others will do. **A physical geology text required on the first day of class.**
- Name of the mathematics text will be available on the program website as soon as possible. **Required on the first day of class.**
- Separate Lab Notebooks for chemistry and geology. Available through the campus bookstore **only** for chemistry.

About the Program:

We will explore the theme of minerals using the disciplines of chemistry and geology as tools. We will also learn the mathematics that is required for this study. During the course of the year we will acquire strong laboratory skills in chemistry, observation skills, mineral identification skills, data analysis skill, field mineral and rock identification skills and lab report writing skills. This program is for the serious student who is willing to take the challenge of strong academic work.

Seminar readings and discussions will both broaden and deepen the program material. Readings may be from literature, journal articles or other sources such as the Internet.

Students will engage in several independent projects throughout the year. All students are expected to present their work at the annual Science Carnival at the end of the year.

By the end of the year, we will have covered one year of general chemistry with laboratory, introductory topics in geology, a course in mineralogy with some fieldwork, and differential and integral calculus. In the spring quarter, the geology portion of the program will discontinue, but the study of chemistry and calculus will continue throughout the year.

Credit may be awarded in: earth science (including physical geology, mineralogy, petrology, geochemistry), general chemistry with laboratory and calculus. Total of 16 credits each quarter.

Program is preparatory for: careers and future studies in the natural sciences, environmental studies and education/science teaching.