

## Earth Science 105

This course covers the basics of motion, chemistry, Earth history, and Earth surface processes. Physics—the study of motion—will be described mathematically. The structure of atoms, bonding, and reactions will be presented in the chemistry unit, and the final unit will tie both of these subjects to Earth processes: history, dating geology, fuel resources, and dynamic surface environments.

The nature of science begins with collection of data. From there, we proceed into organization, prediction of patterns and trends, testing these predictions, and evaluating the results. Suggestions for the patterns of data are called hypotheses—educated guesses as to the reasons behind the patterns. In order for a hypothesis to be considered a *scientific* hypothesis, there must be tests of it which have possible negative outcomes. Well-supported hypotheses can be elevated to theories with rigorous testing. Although tests can never absolutely prove a theory, they can disprove a theory.

Advances in science have progressed from the ancient Greek understanding of the physical world, to grasping the enormity of the universe and its parts, manufacturing materials for the success of societies, to realizing Earth is a regular part of the natural world. Scientific discoveries can lead to technological developments, that of themselves are not problems. Technology can lead to societal problems, with impacts of social interaction and human interaction with the natural world.

Lab starts week 2 of classes. Your lab instructor will have information about your lab at the first meeting. Get your lab manual, bring it, your textbook, and a scientific calculator to lab class. You are registered for a specific class that you should attend on a regular basis. If you miss lab, it is possible to make up lab classes during the week of that lab, you must contact the instructor of the class you want to attend to see if there is room for you that day. Your lab instructor will have specific information about how to turn in the work done in another class. There will be no opportunity to make up the lab after the week it is assigned. If you need to regularly attend a different lab, please have the instructors transfer you from one roll to another, so one is not grading a student that is usually in another's class.

Read the syllabus carefully. It contains contact information for Karen Brown, your instructor, textbook and grading information, website address, useful resources, and policies for your Earth science class. The syllabus follows in this document, with certain parts highlighted to bring attention to what was stressed in lecture on 1-6-09.