Casper College Course Syllabus  
EDCI 1450 – 01 Earth Science in the Elementary School

Semester/Year: Fall 2006  
Section: 01

Lecture Hours: Lab Hours: 2  
Credit Hours: 1

Class Time(s): 10 – 11:50  
Day(s): W

Room(s): TM 121

Instructor’s Name: Terry Logue, Ph.D.  
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Office Hours: 9:00 – 10:00 AM. on class days. Other times may be arranged by appointment.

Course Description:
Covers selection of basic earth science concepts, materials, and curricula appropriate for elementary school. This course parallels the contents of GEOL 1070/ASTR 1070.

Goals:
The course will help to assist future elementary teachers in developing a comfortable feeling for the presentation of earth science in their classrooms. To make them aware of the resources that are available to elementary teachers. To provide examples of the development of lessons and lesson plans. The course will also suggest related classroom management techniques.

Methodology:
A variety of constructivist teaching techniques will be used to demonstrate possible approaches to teaching earth science. Students will actively participate in activities, group work, discussions and writings dealing with earth science teaching at the elementary level.

Evaluation Criteria:
Students will turn in assignments for most class sessions, which will be worth 10 points each. Students will take a mid-term and final semester test (may do science activity at an elementary school instead of semester test), which will each be worth 50 points. The semester grade will be 1/3 homework, 1/3 mid-term test and 1/3 semester test.

Course Specific Detail:
Each class meeting will include activities that would be appropriate for the elementary classroom. Students will do the activities and then discuss the objectives, the science processes, the scientific principles and how the teacher could evaluate the activity. In addition students will look at classroom management techniques and possible student misconceptions. Students will also examine the techniques that help teachers teach for understanding. This will involve working through the processes of developing a good lesson plan for earth science. Each student will show the supplies and materials they would use for teaching their lesson and explain how it would work in the classroom.

Required Text, Readings, and Materials:
There is no required text. However, students will need to make use of references and materials available in the department, college and public library and other available sources.
Class Policies: Last Date to Change to Audit Status or to Withdraw with a W Grade:
See student handbook.

Student Rights & Responsibilities:
Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

Chain of command: If you have any problems with this class, you should first contact the instructor in order to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take your problem through the appropriate chain of command, starting with the department head, then the division chair, and lastly, the vice president for academic affairs.

Academic Dishonesty – Cheating and Plagiarism: Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offence was committed or expulsion from school. See the Casper College Student Code of Conduct.

ADA Accommodation Policy: It is the policy of Casper College to provide appropriate accommodations to any students with a document of disability. If you have a need for accommodation in the course, please make an appointment to see me at your earliest convenience.

Course Content

**August 30.** Astronomy – Seasons, Moon Phases & Creature Features. Science Autobiography due the first day of class. **Assignment for Sept. 13:** Make a list of the ten most important ideas or concepts in Earth Science and explain why they are important. (Use past experiences, your text or other references).

**September 13.** Discuss “Important Ideas or Concepts” in Earth Science. Plate tectonics. Use a map to show evidence that supports the Plate Tectonics Theory. **Assignment for Sept. 27:** Based on one of the “Important Concepts” (from class discussion), which you will use for the remaining assignments, explain three ways that students (4th or 5th grade) could show you that they understand this concept. Make one of the ways a “performance” that students could do in class to show you that they understand the concept.

**September 27.** Discuss evaluation of “Important Ideas or Concepts”. Maps & Aerial Photos & AIMS: Physically Featured. **Assignment for Oct. 11:** Find and bring to class one or two lesson plans that you think would help you teach your “Important Idea or Concept”. Explain why you think it would be a good lesson plan. **Prepare for Mid-Term Test.**

**October 11.** Share lesson plans. Minerals & Rocks. Learn to use keys. Use keys to identify minerals. Make keys for identification of some group of objects. **Mid-term Test. Assignment for Oct. 25:** Make a list and explain the importance of at least six additional activities, demonstrations, videos, books, web sites, etc., that would help you teach your “Important Idea or Concept”.

**October 25.** Share and discuss activities for teaching unit. Investigating Erosion and Sedimentation. **Assignment for Nov. 1:** Find and bring to class to share with your classmates one or more children’s books that deals with the “Important Idea or Concept”. (Casper College has a number of children’s books on the second floor and The Natrona County Public Library has an excellent children’s section in the basement.)
November 1. Share books and discuss linking children’s literature with science teaching. Weather – activities dealing with measuring weather conditions in the elementary classroom. **Assignment for Nov. 29:** Prepare a lesson plan for your “Important Idea or Concept”, which will include objectives, materials and supplies, science processes, scientific principles, procedure, evaluation and remediation. (See handout) Include a list of other activities you would use to complete the unit.

November 29. Finding evidence for geologic change. Investigating rates of radioactive decay and using the Tate Museum, find evidence of changes in life over time. **Assignment for Dec. 13:** Each student will bring the materials and supplies necessary for teaching their lesson dealing with the “Important Idea or Concept”. Try to provide a “hands-on”, “minds-on” activity. Because time will be limited, each student will be limited to a short demonstration of the activity.

December 13. Students will present their “mini” lessons. **Semester Test.**

* It may be possible to actually teach the lesson to a group of elementary students. If this is done, students will be graded on the presentation and the semester test will be omitted.