

NSCI 101: Introduction to Earth's Environment

Syllabus Fall 2005

Course Instructor: Dr. David Brown

Department of Geological & Environmental Science

Office: Holt 312

Telephone: 898-4035

Office Hours: We will be testing virtual office hours using Live Voice Chat via WebCT. The instructor will check in at regular hours during the week and on weekends.

Course content materials: Course content will be delivered on-line through a CSU Chico WebCT homepage specifically created for this course.

Required text: Wright, R.T., Environmental Science: Toward a Sustainable Future, 9/E plus on-line supplements. Laboratory Manual purchased through the University Bookstore

General Course Information

NSCI 101 satisfies General Studies Area B-1 category (physical science) of Natural Science. This course is designed for students who do not have previous exposure to college-level physical science coursework. The primary objectives of this class will be to introduce you to the fundamental concepts of matter and energy transfer within the physical world. In order to gain a more complete understanding of how these processes function, you will be introduced to the governing principles of physics and chemistry. These two science disciplines embody our current understanding of the nature of energy and how it can be transformed. We will also begin exploration of how these energy transfer processes influence and are relevant to the global environment that humans and other species are dependent upon for survival. The course content will deepen your understanding and appreciation for the methodologies of natural science as investigative tools and will identify the limitations of scientific inquiry.

There is a course fee of \$10.00 to cover cost of buses used on field trips in the laboratory portion of the course. This must be paid by the Fee Payment Deadline listed in the Course Schedule, at Cashiering, Kendall 212. Failure to pay will result in loss of University privileges.

Student Learning Objectives:

- You will be exposed to the complexity of interdisciplinary systemic perspectives of the interrelationships between the physical, biological and social viewpoints involved in public policy environmental decisions.
- You will develop the critical thinking skills to understand, appreciate and apply the scientific method as an everyday problem solving tool.
- You will be able to frame testable hypotheses that describe the natural world and predict the behavior of systems.
- You will have a strengthened understanding of the methodology of science, so as to foster critical thinking skills and the ability to make complex scientific and social choices.
- You will develop the recognition of the impact of science on society and the impact of society on science.
- You will understand the differences between belief and scientifically testable or validate results.
- You will be able to read, critically evaluate and discuss contemporary popular scientific information
- You will be enabled to make informed decision concerning scientific issues, as they pertain to society and their personal lives.
- You will be exposed to and practice the power of collaborative learning and intellectual exchange activities in the problem solving process

Course Assessment Procedure

Your grade in NSCI 101 will be determined by your performance in the following areas:

	Percent of overall course grade
Lecture component of course, assignments, quizzes, in-class exams	35%
Discussion/activity	30%
Laboratory	35%
TOTAL for course	100%

Examinations:

- The three lecture exams will have a common format of multiple choice, fill-in, and short discussion questions.

Discussion Sections:

- The discussion sessions will be conducted by your lecture instructor or a college colleague and will serve to provide you with an opportunity to receive clarification or elaboration on course materials.
- Attendance is essential for you to gain the maximum benefit of these small group sessions. Role will be taken in the discussion session after the second week of classes and you will lose points for nonattendance.

Laboratory

- Laboratory instructors will work closely with the lecture instructor to ensure continuity and evaluation consistency between laboratory sections.
- Written laboratory materials will be evaluated by the laboratory instructor using a rubric provided by the lecture instructor

Grading: *Discussion and laboratory attendance is extremely important to your grade.*

Letter grade (Minimum score) A (93) A-(90) B+(87) B(83) B-(80) C+(77) C(73) C-(70) D+(67) D(63) D-(60) F(<60)

Dropping the Course

If you decide this is not the course for you, you are responsible for dropping it. This is easy to do through TRACS during the first two weeks. **After September XX, 200X you will need a "serious and compelling" reason to drop.** (Failing the course or incompatibility with the instructor is not serious or compelling.) The Department of Geosciences and the College of Natural Sciences strictly enforce this policy.

Making Up A Missed Exam

If you are sick the day of either exam, you must call me to let me know you will miss the exam. Make-up exams must be taken within one week of the scheduled exam day.

Note regarding office hours and accessibility:

This semester, we will be testing a new virtual office hour format: live Voice Chat via WebCT. I will try to check in regularly in the evenings and on weekends. You can also post voice messages on the Voice Board.

PRELIMINARY NSCI 101 Course Schedule

<u>Topic</u>	<u>Lab Activity</u>	<u>Discussion /Activity</u>
Framework of Science	Scientific Method	Tragedy of the Commons
Introduction to Modeling;	Physical models	Lab discussion
Introduction to Energy	Heat Lab	Case study/debate planning
The Sun and Earth's Climate	Solar Lab	Lab discussion
Planets; Earth	Lab on Planets	Review
Plate tectonics	Computer simulation	Exam I
Lithosphere; Rock cycle;	Rocks lab [Lab midterm]	Lab discussion
Soil systems	Soil properties [outdoor]	Mid-semester review
Hydrologic cycle	Field trip: Oroville Dam	Case study/debates
Atmospheric processes	Air pollution	Review
Biogeochemical cycles (C, O, S, N)	Stream exercise [outdoor]	Exam II
Human population; Resources & Energy	Field trip: Local Landfill	Case study
Terrestrial Ecosystems	Tree exercise [outdoor]	Ecosystem alteration
Systems Thinking	Lab practicum	Ecological footprint
Synthesis: Climate Change	Lab final exam	Case study
FINALS WEEK		