

Syllabus
Astronomy/Geology 1070, Earth: Its Physical Environment
University of Wyoming, Fall Semester 2009

Instructor

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Office Hours: Monday 10 AM–noon, Wednesday noon–2 PM

Objectives

The successful student will:

- Explain the formation of geologic features.
- Explain the forces and interactions that determine the weather.
- Describe the structure of the universe and why we know it.

Course Content and Approach

What is the universe? How does it work? What is our place in it? This course is an opportunity for students who plan to become elementary school teachers to explore these questions. Students are invited to learn not only *what* we know about the universe we live in and the earth we live on, but especially *how* we have learned it and are trying to learn more.

Required Items

- Cvancara, Alan M. *A Field Manual for the Amateur Geologist. Revised Edition.* New York: John Wiley & Sons, 1985, 1995.
- Henson, Robert. *The Rough Guide to Weather. 2nd Ed.* London: Rough Guides, 2007.
- Gribbin, John and Mary. *From Here to Infinity.* New York: Sterling, 2008.
- *Astronomy/Geology 1070 Course Materials Fall 2009* (course pack).

These are at the University Bookstore for \$19.95, \$19.99, \$24.95, and \$18.45, respectively.

Grading

The final grade is determined from cumulative points attained. Grading is on a standard scale (90's = A, 80's = B, 70's = C, 60's = D, < 60% = F).

A total of 1000 points are available in the course. They are apportioned as follows:

item	points
Weekly lessons	450
Astronomy project	150
Meteorology project	150
Geology project	150
Incidental activities	100

A note about grades: Your grade in this course reflects only your performance over a 15-week period on a limited set of evaluations. Your grade does not reflect your worth as a person or what I think of you. Because of the limited scope of this course, your grade is not a prediction of your future success or even an evaluation of your potential as a teacher. In short, do not cause yourself (or your instructor) anxiety by making more of your grade than it really is.

Course Components

Lecture/Lab

Tuesday and Thursday 2:10–5:00 PM, Physical Science Building, rooms 237–239. Lectures and laboratory activities are integrated in the two long weekly class meetings. There is no grade for attendance, but in-class work cannot be made up without a University excuse or prior instructor consent.

Class activities are usually conducted by the lab group.

Reading quizzes, Drills and Homeworks

Reading quizzes prepare students for class meetings. Each weekly drill reinforces or extends the concepts explored in the class. Students submit reading quizzes and drills on-line through Sakai. Unless otherwise specified, weekly homework questions require hard copy written answers.

Projects

There are three projects during the semester, each worth 150 points. These focus on integrating the information from class to describe and explain the natural world. Each project is described in detail in its own document.

Incidental Activities

Students select from an extensive list of projects to complete throughout the semester. Different projects are worth different numbers of points, for a total of 100 course points.

Textbooks

The textbooks are a resource for students to help themselves fulfill the course objectives. Textbook readings complement the material presented in class by providing a different approach and addressing additional material. Guides for all readings are posted on the class web site. Completing the appropriate textbook reading before a class meeting is expected.

Internet

Course information will be posted on the class web site at <http://www.barransclass.com/ast1070>. Reading quizzes, surveys, and drills are submitted through Sakai.

Absences

Anticipated absences should be brought to my attention before they occur. Work missed due to an absence may be made up if the student has an official University excuse or at my discretion.

If a justified makeup is not possible due to schedule or equipment constraints, the missed work may be prorated.

Late Work

Without prior arrangements or an unforeseen crisis, work turned in after its due date will be assessed a penalty of 10% for each day that it is late. Sakai does not accept late submissions.

Student Conduct

This class exists for students to explore earth and space science. Students are expected to conduct themselves in accordance with this goal. Those who disrupt the class or interfere with other students' opportunity to learn will be asked to leave. Students are expected to respect others' opinions and abilities, and to help each other during group work activities.

If you have a cell phone, leave it home, or turn it off and keep it out of sight. Telephoning or text messaging during class is just rude.

Academic Expectations

If you find yourself struggling, please see me for help sooner rather than later. I will do whatever I can to help you succeed.

Students are expected to work together on group work. Individual work, such as projects, must be solely the work of the student. All ideas from others that appear in writings and presentations submitted in this class must be properly attributed. Consult me or the specific assignment for the appropriate attribution format.

Academic dishonesty is forbidden and will be dealt with according to University procedures. Academic dishonesty primarily involves a student misrepresenting work submitted in the class or assisting another student to submit misrepresented work. This includes, but is not limited to, signing an absent student's name to a group work sheet; "dry-labbing" or recording data that you did not actually observe; submitting material for grading that is, was, or will be also submitted to another class; and submitting material written by another without proper attribution. A comprehensive description of academic dishonesty can be found at http://www.uwyo.edu/generalcounsel/support/UniRegs/802_rev_3.doc.

Office Hours

During my listed office hours, I will be either physically in my office, or I will leave a note on my desk stating where I can be found nearby (lab, department office...). You are also encouraged to see me in my office any other time that I am there. If my office door is open, welcome.

Contacting Me

You are welcome to visit me in my office as described above. Otherwise, the very best way to contact me is by e-mail. I can pretty much guarantee that I will forget any conversation in class. If I have my wits about me when you speak to me in class, I will ask you to send me an e-mail to

remind me of what we discussed. If I forget to tell you to send the e-mail, please send the e-mail anyway.

The hour immediately before class is not a good time to contact me, because I will be concentrating on preparing for class. After class is usually better, unless I am in a hurry to clean up before the scheduled end of class.

Finally, I am not permitted to discuss your grades by telephone or e-mail, so please do not ask!

Special Accommodations

If you have a physical, learning, or psychological disability and require accommodations, please let me know as soon as possible. You will need to register with, and provide documentation of your disability to, University Disability Support Services (UDSS) in SEO, room 330 Knight Hall, 766-6189, TTY: 766-3073, udss@uwyo.edu. Please discuss any special needs you have with me as well.

University Studies Program Statement

This course fulfills the Earth Science (SE) component of the 2003 University Studies Program. SE courses include basic and applied study of fundamental principles addressing the earth-sun relationship, astronomy, distribution of physical/geological features, map interpretation, weather/climate/oceanography, soils and vegetation. They introduce the scientific approach, its scope and limitations. They provide a term-long laboratory experience (or equivalent substantial experimental work integrated with the lecture).

Disclaimer

Information in the syllabus was, to the best knowledge of the instructor, correct and complete when distributed at the beginning of the term. The instructor, however, reserves the right, acting within the policies and procedures of the University of Wyoming, to make changes in the course content or instructional techniques during the term without notice or obligation. If any changes to the syllabus become necessary, students will be notified in class and on the web site.

Tentative Schedule

Dates	Unit	Reading*
Aug 25	Nature of science, Maps	C 3–14, G ch. 20
Aug 27	Landforms, Geologic time	G chs. 1, 9, 11
Sep 1	Streams	G ch. 2
Sep 3	Ice	G ch. 3
Sep 8	Wind and waves	G chs. 4, 5
Sep 10	Plate tectonics	G ch. 12
Sep 15	Rocks	G chs. 14–17
Sep 17	Ground water, Slides	G 6, 7
Sep 22	Volcanoes	G 8
Sep 24	Oil, Wyoming geology	G ch.19
Sep 29	Atmosphere, sunshine	M 9–22, A 25–31
Oct 1	Physics of wind	M 23–25
Oct 6	Geology projects, Climate types	M 30–36, 43–49
Oct 8	Mid-latitude cyclones	M 25–29, 92–96
Oct 13	Physics of precipitation	M 52–68
Oct 15	Thunderstorms and tornadoes	M 69–83, 398–399, 404–406
Oct 20	Tropical cyclones	M 84–91
Oct 22	Climate change	M ch. 4
Oct 27	Local winds	M 96–101
Oct 29	Meteorology project presentations	none
Nov 3	Measuring the heavens I	A 2–10
Nov 5	Measuring the heavens II	A 10–13
Nov 10	Solar system	A chs. 4, 5
Nov 12	Gravity	none
Nov 17	Stars	A 136–146, C 131–140
Nov 19	Star death	A 146–157
Nov 24	Galaxies	A ch. 7
Nov 27	Thanksgiving	
Dec 1	Work day	none
Dec 3	Cosmology	A ch. 8
Dec 10	Final: Astronomy project presentations, 1:15–3:15 PM	

* G = Cvancara, *Field Manual for the Amateur Geologist*; M = Henson, *Rough Guide to Weather*; A = Gribbin, *From Here to Infinity*; C = course pack.