

SYLLABUS: GEOL 111 - VIEWS OF EARTH AND PLANETS
Spring, 2012

Instructor: Nels Forsman, rm. 322B, Leonard Hall, ph. 777-4349 (nels.forsman@engr.und.edu)

When, Where: 11:00-12:15 TR, Leonard Hall 109

Text: Provided by the Instructor

HomePage: <http://www.und.edu/instruct/nforsman/geol111>

Grading: Three regular exams = 50% (lowest exam counts ½ as much as others)
Comprehensive final exam = 30%
Attendance, homework, quizzes and adherence to course policies = 20%

Course Objectives:

- 1) To develop knowledge and understanding of the origin, age, materials, processes and history of the Solar System and beyond.
- 2) To gain understanding of the origin, definition, and purpose of science
- 3) To understand that science correctly explains the age, origin, and history of planet Earth.
- 4) To well satisfy the Essential Studies goal of “thinking and reasoning”.

Schedule:

Introduction: time and distance; escape from the ancient dogma; humans and science

The Cosmos: evidence leads us; new findings from modern spacecraft and telescopes

Space Terms: descriptive terminology for the solar system

Some Geology: heat engines and planetary differentiation

The Moon: remote and from landings

EXAM #1 Thursday, February 7

Comets: history and new realizations

Origin of the Solar System

Asteroids: in the belt, and planet crossers

Meteorites: recognition and determining parent bodies

Impact Craters: origin, recognition, consequences

EXAM #2 Thursday, tentatively March 8 (or Mar 20)

Sun and Stars: how they work and their connection to us

Mars: what science has learned

Mercury: our least studied planet (website notes)

Venus: Earth’s twin?...no such thing

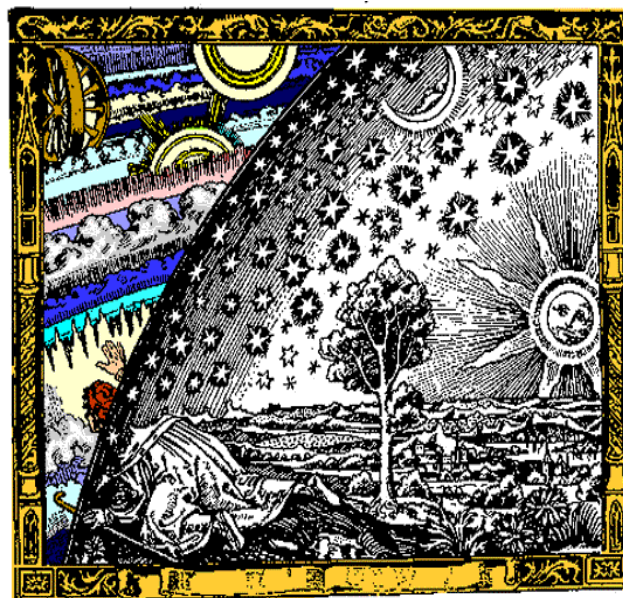
Jupiter System: Jupiter and its planet-sized moons

EXAM #3 Tuesday, tentatively April 17

What makes a planet habitable

Intelligent Life Elsewhere?

Epilogue



FINAL EXAM: 1:00 p.m., Tuesday, May 8, in room 109 Leonard Hall

My official office hours this semester are from 10-12 MWF. I am often also available at other times. I also normally respond quickly to email. All students are welcome! and encouraged to seek additional assistance from me, whether it be to check your notes, to clarify concepts, to suggest study aids, or to assist with homework. If you need help, please come and get it.

If you have emergency medical information to share with me, need special arrangements in case the building must be evacuated, or you need disability accommodations in this course, please make an appointment with me. If you plan to request disability accommodations, you are expected to register with Disability Services for Students, 190 McCannel Hall, 777-3425.

Course Policies:

- 1) Try to avoid missing class. **You** are responsible for obtaining the information presented during classtime. Traditionally, students who miss class do not do well on exams in this course. And if you miss a homework assignment given during a class period, you must still turn that homework in by its due date. Homework turned in late will receive **no credit**, unless **prior** arrangements were made.
- 2) Students are responsible for frequently checking the course homepage. Also a quiz may be given at any time.
- 3) **Turn in your own work:** working with your classmates is strongly encouraged, but not to the point of copying each others work-- assignments turned in must be independent products, revealing your own level of understanding.
- 4) Again, working with your classmates is encouraged. Think about forming study groups. Once in a study group, do not waste the other's time-- be prepared.
- 5) **Do not turn in paper with frayed edges.** If you use spiral notebook paper, trim it (don't tear it) before turning it in. Also, **staple pages**-- do not use "dog-ears". **Buy a stapler**
- 6) All writing in homework for this course **must** be written as if educating a layperson reader. This may seem a chore, but it will help your learning.
- 7) In the classroom, do not let any row in front of you have less than 5 people.
- 8) **There will be no "extra credit" to make up for earlier performance.** "Extra" credit can be acquired only for "extra".
- 9) The final exam is comprehensive. Therefore recognize that long term retention comes from genuine understanding and an ability to visualize, as well as an ability to teach others. For best learning, try to engage the long-term memory "portion" of your brain. i.e., replace "memorization" with "visualization". Do a lot of writing, and talking, about the information in this course. Writing, especially, is a great way to consolidate information, to organize your memory for long-term storage and retrieval, to become an "owner" of information.
- 10) This course receives Essential Studies credit in Mathematics, Science, and Technology. Please review UND's Essential Studies goals at the Registrar's website. There will be an assignment

and test questions checking to see if you've met your obligation to meet the "thinking and reasoning" E.S. goal addressed by this course. Please be reminded that all writing you do in this course will be expected to meet a certain standard of competency and quality. If you have particular problems with writing, you are encouraged to seek assistance from the Writing Center, room 12 Merrifield Hall, phone 777-2795.

- 11) Make yourself familiar with the UND Code of Student Life.
- 12) Early Intervention Program Students enrolled in this course are participants in the University of North Dakota's Early Intervention Program. Between the fourth and fifth week of the semester, the Student Success Center will be provided with the names of those students who are in danger of failing this course due to:
 - Excessive absences
 - Missing assignments
 - Deficient scores on assignmentsThese students will then be contacted by the Student Success Center with information regarding campus resources and other tips to assist in improving their performance in this course.
- 13) **Enjoy** this course! Engage your curiosity and your critical mind. Observe the sky and world around you; watch educational television programs such as NOVA; visit NASA web pages.

THE KNOWLEDGE SURVEY PROCESS: Each student must complete each knowledge survey as they appear during the semester. The knowledge survey process:

- Provides helpful feedback to instructors about the conduct of their course.
- Provides to students a complete disclosure of course contents and expectations.
- Provides a study guide for students.
- Is a good thing, with no real negatives for anyone.

To comply with the Knowledge Survey process, which is conducted on-line, you must first register at:

<http://www.ks.und.edu/register.php>

The instructions there are very clear, so just do what it says. And **remember the personal password** you choose; you'll need it to take all the surveys this semester.

After registering, you will take Round 1 of the knowledge surveys, spaced throughout the semester, by going to:

<http://www.ks.und.edu>

Note that each knowledge survey will have a narrow time window for completion. Once the deadline for taking a given survey has passed, that survey can no longer be taken. The times and deadlines for surveys will be announced in class, and posted on the course homepage.

The knowledge surveys are not graded; that is, the answers you give do not affect your grade in any way. The Round 1 surveys are simply a "before" look at your understanding of topics in the course. Each knowledge survey discloses all of the topics that will be covered prior to the next exam. And the questions are worded in a way that reveals the instructor's expectation of your understanding. **So these surveys are very good study guides for exams.** You should use these

study guides frequently and repeatedly; they are a roadmap of the course, and will greatly assist you in learning the course material.

At the end of the semester, your “before” results may be compared with an “after” look; that is, just prior to the final examination, you may be required to complete Round 2 of the knowledge survey, which repeats the questions from all the Round 1 surveys, but this time you’ll be answering those questions after having had the course.

This process helps inform instructors about how to adjust their coverage of topics. Results from student knowledge surveys may reveal that certain topics require little class time, or that other topics may require expanded treatment in class. So these surveys help instructors fine-tune their courses for student needs. The surveys are quite easy to take, typically requiring less than 15 minutes of a student’s time for each survey. And students can take them wherever they have access to the internet.

It is crucial that each student actually read and carefully consider each knowledge survey question before selecting an answer choice for that question. The process is otherwise of very little benefit to either the student or the department.