

Earth Science: Geography 1710.002

Spring 2016

Matt 311, MWF 11 -11:50

Instructor: Steve Wolverton

www.wolvertonunt.weebly.com

wolverton@unt.edu

341 Environmental Science

Office Hours: MWF 10 - 11 am, by appointment

Course Description

This course is an introduction to fundamental processes that operate in the earth's systems (living and inert) in the air, water, on land, and in the ground. We consider these processes in reference to a range of salient issues in contemporary society, such as human-environment interactions, conservation, and global climate change. The ultimate goal of the class is to be more aware of and knowledgeable about the world around us - earth.

The class is taught in the following manner: 1) Lectures and corresponding readings are organized in a series content *blocks*. 2) Each lecture is boiled down to *defining* five to ten important related concepts. 3) Part of each lecture is devoted to *contextualizing* those concepts. 4) The last part of each lecture is dedicated to articulating questions and responses about (*evaluation of*) definitions and context. 5) A series of related concepts from the textbook that are not covered in lecture will be identified at the end of each lecture for students to define, contextualize, and evaluate within the block outside of class. Defining, contextualizing, and evaluating material leads to comprehending the material from each block. Exams will be limited to those definitions and concepts covered in class and identified as important from the textbook for each block at the end of lectures.

Labs

The lecture and lab sections for Earth Science are separate and taught by different parties; therefore, the professor in the lecture may not know who is your TA is. However, the lab grade is integrated into the final grade with lecture counting for 70% and lab counting for 30% of the final grade. If you have questions concerning your TA please contact the Earth Science Lab Coordinator, Professor Feifei Pan; his email is feifei.pan@unt.edu and in addition to a number of geology courses he also teaches lecture sections of Earth Science.

Book (required)

Marsh and Kaufman 2013. *Physical Geography: Great Systems and Global Environments*

Reading Assignments

I provide the readings for each block at the beginning of the block, which will be listed on blackboard and presented in class. Not all of the readings are from the book, and we read sections of the book (not whole chapters) as well as outside material.

Exams & Grades

There are five non-cumulative exams in this course, each worth twenty percent of the final course grade. The final grade breakdown is as follows 90% + of the total points = A, 80 to 89.4% of the total points = B, 70 to 79.4% of the total points = C, 60 to 69.4% of the total points = D, 59.4% and below = F.

All exams are open notebook.

Advice

There is a lot of information in this class; thus, it is important to be organized and to spend a lot of time with the course material. From lecture, you will know exactly which concepts from class and from the textbook to concentrate on. I strongly advise you take the following steps.

PowerPoint lecture presentations will be posted on Blackboard at the beginning of each block. Do not consider the PowerPoint presentations to be a comprehensive representation of the class or a substitute for class notes. Slides embody *very little text* and instead rely on diagrams and images. Note-taking is a must in this class.

During the semester (prior to finals week), students may take one of the UNT Learning Center's Learning 101 Workshops (<http://learningcenter.unt.edu/learning101>) and by so doing may drop their lowest test score at the end of the semester. Students must take all five exams in order to drop the lowest one. To receive credit, students must turn in the attached form, signed by instructor from The Learning Center.

Students should take notes by hand in a notebook as studies highlight this leads to greater retention of material than taking notes via tablet, phone, or laptop (<http://www.theatlantic.com/technology/archive/2014/05/to-remember-a-lecture-better-take-notes-by-hand/361478/>). If you have trouble taking notes by hand, then prioritize the note-taking Learning 101 workshop.

Rewrite or type your notes after class; this solidifies many concepts and helps identify when your understanding is weak.

Make flashcards of all definitions from the lecture and those identified in class as important from the textbook and memorize solid definitions (see this blog post on memorization to learn its benefits: <http://dspunt.blogspot.com/2012/03/lost-art-of-memorization.html>).

Although I provide test-like questions in class (for the evaluation part of lecture) and identify the important related concepts from the textbook each day, you must come to class to receive these as they will not be part of the PowerPoint presentations posted on Blackboard.

Relevant sections of the textbook will be identified at the end of each lecture; it is rare that whole chapters will be utilized.

COURSE OUTLINE

Block 1 **Lecture Title**

- Lecture 1 Earth Science Introduction
- Lecture 2 Elements of Maps
- Lecture 3 GIS & Types of Maps
- Lecture 4 Energy & Solar Radiation
- Lecture 5 Basic Chemistry & Solar Radiation
- Lecture 6 Earth's Motion & Reception of Solar Radiation
- Exam 1 Friday, September 16

Block 2

- Lecture 7 Heat Transfer
- Lecture 8 Net Radiation
- Lecture 9 Atmospheric Structure & Pressure
- Lecture 10 Wind
- Lecture 11 Precipitation
- Lecture 12 Tornadoes & Hurricanes
- Exam 2 Wednesday, October 5

Block 3

- Lecture 13 Climate
- Lecture 14 Climate Change & Earth History
- Lecture 15 Climate Change & Global Warming
- Lecture 16 Ecology
- Lecture 17 Ecosystem Structure & Processes
- Exam 3 Friday, October 21

Block 4

- Movie *Dirt! The Movie*
- Lecture 18 Nutrient Cycling
- Lecture 19 Soil Formation
- Lecture 20 Soil Classification
- Lecture 21 Water
- Lecture 22 Ocean Currents & Gyres
- Lecture 23 Water in Soils
- Exam 4 Friday, Nov 11

Block 5

- Movie *Tapped*
- Lecture 24 Groundwater
- Lecture 25 Glaciers
- Lecture 26 Earth Structure & Plate Tectonics

Lecture 27 Earthquakes, Volcanos, Mountains

Lecture 28 Rocks, Minerals, & the Rock Cycle

Exam 5 Monday, Dec 12 10:30 am (final exam period)

Accommodations: The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at <http://www.unt.edu/oda>. You may also contact them by phone at 940.565.4323.

Academic Dishonesty: Students caught cheating or plagiarizing will receive a "0" for that particular assignment or exam. Additionally, the incident will be reported to the Office of Student Rights and Responsibilities for further penalty. According to the UNT catalog, the term "cheating" includes, but is not limited to: (a) use of any unauthorized assistance in taking quizzes, tests, or examinations; (b) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (c) the acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university; (d) dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s); or (e) any other act designed to give a student an unfair advantage. Altering a returned test and claiming a grader or scanning machine made an error is also considered cheating. The term "plagiarism" includes, but is not limited to: (a) the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment; and (b) the knowing or negligent unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

Acceptable Student Behavior: Remember that you have agreed to follow the UNT Code of Student Conduct. "Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Center for Student Rights and Responsibilities to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc." Again, the Code of Student Conduct can be found at http://conduct.unt.edu/student_conduct.

Classroom Courtesy: Please follow these guidelines to avoid disrupting the class.

- (1) Turn off cell phones before arriving and do not text in class.
- (2) Do not arrive late or leave early (except for a bathroom break or emergency).
- (3) Do not sleep during class.
- (4) Do not work on other assignments during class.
- (5) Do not talk or whisper to neighbors (except for formal class interaction).

Dr. Wolverton's Earth Science: Learning 101 Workshop Form

Workshop times and locations can be found at: <https://learningcenter.unt.edu/learning101>

Workshop Title: _____

Date and Time Attended: _____

Location of workshop: _____

Workshop Instructor Name: _____ (print)

Workshop Instructor Signature: _____

Student commitment. I _____ (student, print name)
state that I attended the workshop above, gave it my full attention, and am willing to put what I
learned to practice in the classes I take.

Student's Signature: _____