

THE UNIVERSITY OF TEXAS AT TYLER
Syllabus for Geology 3310.001 - Physical Geology and Astronomy
Fall Semester 2009 RBS 1031 & RBS 2015

Instructors:

Jeff Lauman, M.S., P.G.

Office Hours 5:30-6:00 PM & 8:40-9:30 PM Mondays

Kilgore RRC 903-984-3026 ext 220 Hm 903-592-5395 9-10 pm

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I. INTRODUCTION

This course consists of an introduction to physical geology (70%) and an introduction to astronomy (30%). Geology "the study of the Earth" deals with the history of our Earth's formation, the rocks of which it is composed, and the changes which it has undergone and is still undergoing. Geology has a very practical impact on our daily lives. The oil, gasoline, coal, uranium, etc. are necessary to power our vehicles, heat & cool our homes comes from rocks that were likely discovered by a geologist. Astronomy "the study of the universe" relates our planet Earth to our solar system and in turn to the larger universe. In this modern age of "Space Science" there are weekly news reports of new observations, theories, and discoveries that seek the origins and evolution of planets, solar systems, and galaxies. Astronomy also seeks to answer questions about our own planet's origin and development of our own environment.

II. STUDENT LEARNING OUTCOMES

By the end of this course, students should be able to:

- Analyze the concepts of time, space, and distance as they are used in the sciences of Geology & Astronomy.
- Differentiate between Alfred Wegener's Continental Drift hypothesis of the 1920's and the new paradigm of Plate Tectonics.
- Discriminate between: A. The additions & movements of the earth's crust by the activities of volcanoes, mountain building, and earthquakes. B. Weathering, erosion, and subsequent sediment deposition by the forces of gravity, running water, wind, and glaciers.
- Classify the earth's rocks into the Rock Cycle components as belonging to either igneous, sedimentary, or metamorphic.
- Investigate today's timely usage of alternative fuels versus fossil fuels.
- Weekly "Critical Thinking" questions, that require a 6-10 sentence paragraph to complete the assignment, will challenge the student to analyze & describe how a geologic process works.
- Students will demonstrate acquired knowledge of a selected geologic topic to the class by conducting a short "Student Presentation" using a three panel poster board. This project is intended to sharpen the student's research, organization, design, and presentation skills.
- Examine Planet Earth as it relates to the other members of the solar system, Milky Way Galaxy, and the universe.

III. MATERIALS

Text: Tarbuck, Edward J. and Lutgens, Frederick K. **Earth Science**. 12th ed., Pearson Education Inc. Prentice Hall publisher (2006), Upper Saddle River, New Jersey 07458. ISBN-10: 0-13-602007-0 After 1/1/2007: ISBN-13: 978-0-13-602007-3
Optional: Student Lecture Notebook

Selected videos, DVD's, overhead transparencies, lab materials, and other materials assigned by the instructors.

IV. COURSE REQUIREMENTS

Class will meet in RBS 1031/2015 each Monday evening from 6:00 PM – 8:40 PM except Monday, September 7, Labor Day Holiday.

Attendance Policy. Student absences will be considered on a case by case basis. Since the class meets only once per week much material will be covered and any missed class periods will likely result in lower test and final grades. If you are unable to attend a class meeting, all discussed material and all given assignments are your responsibility. The last day to withdraw from the course with an automatic grade of “W” is October 30th, 2009. To withdraw from the course, students should initiate withdrawals with the instructor.

V. HOW TO SUCCEED IN THIS COURSE

Your grade will be determined by your work. Two of the three tests, equally weighted, will determine 30% of your grade. The cumulative final exam will account for 25% of your course grade. The semester grade computation is listed below. There will be many items described in the lecture and the videos that cannot be found in the book—these items will be included on the tests. There are many items mentioned in the book that will not be included in lectures or tests, so if you miss lectures you won't know what to study.

Students must study outside of class to be successful in this course. Outside work includes reading the textbook, completing the assigned homework, and reviewing lecture notes. Typically this requires 2 or more hours for each hour of lecture. Students should take adequate lecture notes, and these notes should be reviewed as soon as possible after class meeting so that the students may consult with the instructors about any material that may seem unclear.

Students with a grade D or F should consult with the instructor voluntarily to ascertain the reason for their low average in the course. These conferences should come as soon as possible after the grades reach this danger point in order that the students might correct their problems. **Students are required to take the final examination in order to receive a passing grade in the course.**

VI. GRADE REPLACEMENT

If you are repeating this course for a grade replacement, you must file intent to receive grade forgiveness with the registrar by the census date (“12th class day”). Failure to file intent to use grade forgiveness will result in both the original and repeated grade being used to calculate your overall grade point average. A student will receive grade forgiveness (grade replacement) for only three (undergraduate student) or two (graduate student) course repeats during his/her career at UT Tyler. (2006-08 Catalog, p. 35).

VII. STUDENT ACADEMIC CONDUCT

In this course students are encourage to study and to prepare for tests and the final and laboratories with other students. **However, when taking tests and the final exam students are to work alone. Cheating will not be tolerated.** The university regulations are very explicit about academic dishonesty, and these regulations will be fully enforced. **During tests and the final exam, a code of honor will apply under which students are to work alone and neither give help to others nor receive help from any sources.** Students also are expected to help enforce this code. Students are encouraged to obtain a copy of *A Student Guide to Conduct and Discipline at UT Tyler*, available in the Office of Student Affairs.

VIII. DISABILITY

"If you have a disability, including a learning disability, for which you request disability support services/accommodation(s), please contact Ida MacDonald in the Disability Support Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability support services/accommodation(s) must provide appropriate documentation of his/her disability to the Disability Support Services counselor. For more information, call or visit the Student Services Center located in the University Center, Room 282. The telephone number is 566-7079 (TDD 565-5579)." Additional information may also be obtained at the following UT Tyler Web address: <http://www.uttyler.edu/disabilityservices>.

IX. SOCIAL SECURITY

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number.

X. RELIGIOUS OBSERVANCE

Students who anticipate being absent from a class due to religious observances are requested to inform the instructor by the second class meeting of such absences.

XI. SEMESTER GRADE COMPUTATION AND PERCENT TO GRADE RATIO

Major Tests	100 points each x 3	300 pts	A = + 900
Homework (av)	collected at the end of each class	100 pts	B = 800-899
Critical Thinking Questions (av)	“ “ “ “ “ “	100 pts	C = 700-799
Lab Tests	50 points each x 3 (av)	150 pts	D = 600-699
Student Presentation		100 pts	
Final Exam – comprehensive	Monday Dec 14	250 pts	Total 1000 pts

The lowest test, lab test, HW, and lowest CT grade will be dropped. The last page of each test may be handed out & collected at the **end** of class (T& F or multiple choice). Homework is worth a maximum of 50 % if turned in a day late to (Dept Sec- my mailbox), or Emailed by 5PM Tuesdays.

* Extra Credit – TJC Planetarium Presentations and/or a tour of the East Oil Museum located in Kilgore, Tx. Turn in a half typed page detailing what you learned plus a ticket stub. I'll add 5 % on a Test.

Student Presentation: The student will present to the class a brief concise geology topic on a 3 panel poster board. Presentations will be subjected to peer standards/interest/grading. Out of bound topics include: major textbook topics, text book Web sites, topo maps, and our planets. Possible topics include: a recent discovery, Web site(s), New Madrid Fault, East Coast earthquakes, Texas earthquakes, geol/astron history topics, Tyler's water cycle, Lignite mines, diamonds in Ark, Wyoming, and W. Canada. Topics must be Ok'd in advance by the instructor via a sign up sheet.

XII. COVERED TOPICS, TESTS, AND FINAL EXAM DATES

1. Introduction Chapter 1 & Plate Tectonics Chapter 7 / **Aug 31**
Plate Tectonics - Video # 1 **Groups: Jasper & Obsidian 6:00-8:40 pm Room RBS 1031**
2. Earthquakes & Earth's Interior Chapter 8 / Lab Intro Minerals / Earthquakes - Video # 2
HW p. 26 1-16 + 5 HW p. 215 1-21 + 5 HW Hurricane Map **Sept 14**
Jasper Group: Room RBS 1031 6:00-8:40 pm
Obsidian Group: Room RBS 2015 6:00-7:20 pm - Room RBS 1031 7:25-8:40 pm
3. **Test 1** /Volcanoes & Igneous Activity Chapter 9 / Lab Minerals / Volcanoes - Video # 3
HW p. 244-245, 1-22 + 5 HW Hurricane Map **Sept 21**
Groups: Jasper & Obsidian 6:00-8:40 pm Room RBS 1031
4. Mountain Building Chapter 10 & Chapter 2 / Lab Minerals / Collecting Minerals - Video # 4
HW p. 280, 1-25 + 5 **Sept 28**
Jasper Group: Room RBS 1031 6:00-8:40 pm
Obsidian Group: Room RBS 2015 6:00-7:20 pm - Room RBS 1031 7:25-8:40 pm
5. Weathering, Soil, Mass Wasting Chap 4 / Lab Igneous Rocks / Soil Video - Video # 5
HW p. 305-6, 1-28 + 5 HW p. 48 1-16 + 5 **Oct 5**
Groups: Jasper & Obsidian 6:00-8:40 pm Room RBS 1031
6. **Lab Test 1** (Min & Igneous) / Running Water & Groundwater Chapter 5 / Carrizo Aquifer
Lab Sedimentary Rocks / HW p. 112, 1-22 + 5 **Oct 12**
Groups: Jasper & Obsidian 6:00-6:45 pm Chemistry Lab Room RBS – Third Floor
Jasper Group: Room RBS 1031 6:45-8:40 pm
Obsidian Group: Room RBS 2015 6:45-8:00 pm - Room RBS 1031 8:00-8:40 pm
7. **Test 2** Glaciers, Deserts, and Wind Chapter 6 & Rocks Chapter 3 / Lab Sed & Met Rocks
HW p. 149-1, 1-29 + 5 Yellowstone - Video # 6 **Oct 19**
Groups: Jasper & Obsidian 6:00-6:45 pm Room RBS 1031
Jasper Group: Room RBS 1031 6:45-8:40 pm
Obsidian Group: Room RBS 2015 6:45-8:00 pm - Room RBS 1031 8:00-8:40 pm
8. Geologic Time & Earth's History Chapters 11 & 12 / Lab Sed & Met Rocks
HW p.184 1-22 + 5 HW p. 80 1-18 + 5 Planet Earth - History Video # 7
Mid Term Grades given out. ** Last day to withdraw with "W" Oct 30** **Oct 26**
Jasper Group: Room RBS 1031 6:00-8:40 pm
Obsidian Group: Room RBS 2015 6:00-7:20 pm - Room RBS 1031 7:25-8:40 pm
9. **Lab Test 2** (Sed & Met Rocks) Intro to Oil, Ngas, Coal & Energy Topics Part A
HW p. 331 1-18 + 5 Drilling Oil & Gas Wells - Video # 8 **Nov 2**
Groups: Jasper & Obsidian 6:00-6:45 pm Chemistry Lab Room RBS – Third Floor
Groups: Jasper & Obsidian 6:45-8:40 pm Room RBS 1031

10. Student Presentations Last Names: **R-Z** Energy Topics Part B / Lab Geological Maps & Cross Sections Topo Maps / HW p.364 1-20 + 5 Price of Gasoline Video # 9 **Nov 9**
Groups: Jasper & Obsidian 6:00-8:40 pm Room RBS 1031

11. **Test 3** / Student Presentations Last Names: **H-Q** / Origin of Modern Astronomy Chapter 21 & 23 **No HW Due** Lab Co. & State Maps The Sun - Video # 10 **Nov 16**
Groups: Jasper & Obsidian 6:00-8:40 pm Room RBS 1031

12. Student Presentations **Last Names: A-G** / Our Solar System Chapter 22 / Lab Topo Maps **Nov 23**
HW p. 622 1-23 + 5 & HW p. 673 1-24 + 5 Video Meteor - Video # 11
Groups: Jasper & Obsidian 6:00-6:45 pm Room RBS 1031
Jasper Group: Room RBS 1031 6:45-8:40 pm
Obsidian Group: Room RBS 2015 6:45-8:00 pm - Room RBS 1031 8:00-8:40 pm

13. **Lab Test 3** / Stars Chapter 24 / HW p. 650-1 1-26 + 5 Meteor – Video # 11 **Dec 30**
Groups: Jasper & Obsidian 6:00-6:45 pm Room RBS 1031
Jasper Group: Room RBS 1031 6:45-8:40 pm
Obsidian Group: Room RBS 2015 6:45-8:00 pm - Room RBS 1031 8:00-8:40 pm

14. Stars Chapter 24 / The Universe - Video # 12 / Course Review / HW p. 699 1-25 + 5 **Dec 7**
Jasper Group: Room RBS 1031 6:00-8:40 pm
Obsidian Group: Room RBS 2015 6:00-7:20 pm - Room RBS 1031 7:25-8:40 pm

15. **Final Exam** Counts as 25% of course grade - comprehensive / **Dec 14** 6 pm - 8 pm
Groups: Jasper & Obsidian 6:00-8:00 pm Room RBS 1031