

2013

## 117-03 Our Universe- Earth Lab

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**Our Universe – The Earth Lab**  
**PHYS 117-03**  
**Th 5:00 –6:50 PM LND 203**

**Instructor:** Dr. T. Matthew Fletcher  
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In this course you will get an introduction to the earth, energy, and environmental science from a physics perspective. This is a one credit hour lab course. The complementary course, PHYS 116, is a separate course with a separate grade. The topics covered in lab often complement the lecture, but some topics are independent material.

**Lab Preparation:** Prior to each lab, you must fully understand the procedure to be followed. **Read each lab handout prior to the lab period.** There is not enough time to tutor each group/individual so being unprepared will cause long delays in executing the labs.

**Lab Partners:** You will usually work in pairs during the lab sessions but occasionally you will work individually. Every student must hand in individual work. If there are any questions see the instructor.

**Due Dates:** All lab work is due either at the end of class or at the beginning of the next lab class. Most labs will have work due at the end of the lab class. Late work will be penalized. Per departmental policy, lab reports turned in more than 2 weeks after the due date are a zero unless prior arrangements are made. Attendance is mandatory at all lab sessions.

**Technical Memos:** Formal lab reports are not required. The write up for many labs will be completed in lab. For others, you will prepare a short technical memo summarizing the data, analysis and conclusion. Memos must contain all raw data and any calculations, graphs, setup diagrams or results generated during analysis.

**Take Home Labs:** Two of our labs are take-home labs. These labs do not require special equipment, and will be done at home. These labs are due the week after they are assigned. These labs are aligned with the holidays and breaks so that extra trips to campus are not required during those weeks.

**Lab Exams:** There will be a mid-term exam (Oct 17) and a final exam. The mid-term is a practical exam. You will work alone, performing tasks similar to those from the first six labs. You will also answer questions relating to the experiments and your analysis of the data. You should be able to perform the calculations and techniques used in the lab. The lab handouts will provide a good study guide.

A final exam will be given December 5. This will be a written exam, not a practical exam, covering all of the labs for the entire semester.

\*\*\*The instructor reserves the right to alter this syllabus if circumstances dictate\*\*\*  
**Grading:** Your laboratory grade will be determined as follows:

Lab Reports	60%
Mid-Term Exam	20%
Final Exam	20%

A = 93-100%, A- = 90-92%, B+ = 87-89%, B = 83-86%, B- = 80-82%, C+ = 77-79%,  
C = 73-76%, C- = 70-72%, D+ = 67-69%, D = 63-66%, D- = 60-62%, F = 0 – 59%

**Courtesy:** Please leave your cell phones, i-Pods, etc. turned off during class. Food is not permitted in the lab during class.

### Laboratory Schedule

<u>Date</u>	<u>Experiment</u>
Aug. 29	Introduction to Lab
Sept. 5	Modeling Exponential Growth
Sept. 12	Identification of Minerals
Sept. 19	Identification of Rocks
Sept. 26	Relative Age Dating ( <b>Home lab</b> )
Oct. 3	Paleomagnetism
<b>Oct. 10</b>	<b>No Lab</b>
<b>Oct. 17</b>	<b>Mid-Term Exam</b>
Oct. 24	Seismology
Oct. 31	Tsunamis
Nov. 7	Topographical Maps
Nov. 14	Water Filtration
Nov. 21	Energy ( <b>Home lab</b> )
Nov. 28	Thanksgiving Holiday
Dec. 5	Make-Up Lab
<b>Dec. 12</b>	<b>Final Exam</b>

Note: When making a graph or table, don't forget to label your axes, title, and legend.

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