

2013

## 117-01 Our Universe- The Earth Laboratory

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**Our Universe – The Earth Laboratory**  
**PHYS 117-01**  
**T 9:30-11:20**  
**LND 203**

**Instructor:** Amy Bosch

**Phone:** 513-745-4297

**Office Hours:** Monday 9-10, Tuesday 12-12:30, Wednesday 12-1; Thursday 9:30-10. I am not on campus on Fridays.

**Office:** LND 106

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**Student Learning Outcomes:** In this course, students will learn physical and general science principles through the study of geology. Students will learn the basics of writing lab reports. Students will utilize analytical and quantitative skills to design experiments and test theories.

This is a one credit hour lab course, to be taken concurrently with PHYS 116. PHYS 116 is a separate course with a separate grade. The topics covered in lab sometimes 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.** Students who are unprepared for lab will have their grade lowered for that week.

**Lab Partners:** You will work in pairs during the lab sessions. Both students in the pair are expected to participate fully. You must hand in your own individual lab report. Data will be identical for each partner, but the memos and reports must be written in your own words and **must not be identical.** **Placing your name on another student's lab report DOES NOT COUNT as handing in a lab.**

**Due Dates:** All lab reports are due at the beginning of the next lab period. Partial credit will be given to lab reports submitted one week late. Lab reports **will not be accepted** if they are more than one week late. Attendance is mandatory at all lab sessions.

**Fill-In Labs:** Some of the labs are designed for you to record data and answer questions directly on the handout provided. All questions are to be answered completely, and handwriting must be legible. Any graphs or charts created must be included when the lab is handed in. You are permitted to type the data and answers to questions if you prefer.

**Technical Memos:** For some of the labs, once the experiment has been completed, you will prepare a technical memo summarizing the data, analysis and conclusion. A template for technical memos will be provided. Memos must contain all data and any graphs or diagrams generated during the 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.

**Exams:** A mid-term exam will be given during the regular lab time. 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.

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

**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 = 60-66%   F = 0 – 59%

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

## Laboratory Schedule

<u>Date:</u>	<u>Experiment</u>
Aug. 27	Introduction to Lab (Memo)
Sept. 3	Modeling Exponential Growth (Memo)
Sept. 10	Identification of Minerals (Fill In)
Sept. 17	Identification of Rocks (Fill In)
Sept. 24	Paleomagnetism (Memo)
Oct. 1	Relative Age Dating ( <b>Home lab – Fill In</b> ) <b>*Due Wednesday, October 9</b>
<b>Oct. 8</b>	<b>No Lab – Fall Break</b>
<b>Oct. 15</b>	<b>Mid-Term Exam (Practical Exam)</b>
Oct. 22	Seismology (Memo)
Oct. 29	Tsunamis (Memo)
Nov. 5	Energy ( <b>Home lab – Fill In</b> )
Nov. 12	Water Filtration
Nov. 19	Topographical Maps (Fill In)
<b>Nov. 26</b>	<b>No Lab</b>
Dec. 3	Make-Up Lab
<b>Dec. 10</b>	<b>Final Exam (Cumulative)</b>

The instructor reserves the right to alter this syllabus if circumstances dictate.