

**GEOL 102 Historical Geology: The History of Earth and Life**  
Spring Semester 2017

Laboratory Information  
GEO 2107 2:00-5:00 p.m. W (Lab)

Instructor: Dr. Thomas R. Holtz, Jr.  
Room: GEO 4106, Office Hours: Wed 10-11:30 am or by appointment  
Phone: x56965, Email: tholtz@umd.edu

**LAB MANUAL**

*Deciphering Earth History: Exercises in Historical Geology. Fourth Edition. (DEH) by R.A. Gastaldo, C.E. Savdra & R.D. Lewis (2006, CPC Publishing)*

**LAB SCHEDULE**

- Jan. 28      **LAB:** Overview of Policies and Introduction
- Feb. 1      **LAB:** Description and Classification of Sedimentary Rocks (*DEH* Lab 1)
- Feb. 8      **LAB:** Interpretation of Sedimentary Rocks (*DEH* Lab 2)
- Feb. 15     **LAB:** Relative Time and Sequence of Events (*DEH* Lab 3)
- Feb. 22     **LAB:** Lithostratigraphy (*DEH* Lab 4)
- Mar. 1      **LAB:** Biostratigraphy & Radiometric Dating (read *DEH* Lab 5 & 6; actual lab will be a handout)
- Mar. 8      **LAB:** Fossil Preservation and Taphonomy (*DEH* Lab 8)
- Mar. 15     **LAB:** Lab Exam 1 (Covers material from 2/1 to 3/1)
- Mar. 22     **SPRING BREAK**
- Mar. 25     **LAB:** Paleontology I Common Invertebrate Fossils (Lab will be a handout)
- Apr. 1      **LAB:** Paleontology II Micropaleontology, Paleobotany, Vertebrate Paleontology (Lab will be a handout)
- Apr. 8      **LAB:** Paleontology III Paleoenvironments & Paleoecology (Lab will be a handout)
- Apr. 15     **LAB:** Interpretation of Geological Maps (Read *DEH* Lab 15; this Lab is a handout, but we will do Lab 15 during the next two weeks)
- Apr. 22     **LAB:** Geologic Maps and Interpretation of Earth History in Selected Regions pt. 1 (*DEH* Lab 15)
- Apr. 29     **LAB:** Geologic Maps and Interpretation of Earth History in Selected Regions pt. 2 (*DEH* Lab 15)
- May 6      **LAB:** Lab Exam 2 (Concentrates on labs from March 4 onward)

### **LAB SUPPLIES**

- Lab manual. You will be expected to turn in (stapled: see below) hardcopies from the manual itself.
- Hand lens. A 10x handlens for observing specimens is very useful, although you can go with higher magnification if you wish. There is a very reasonably-priced set of handlenses you can get on Amazon.com at <http://www.amazon.com/3pcs-Jewelers-Loupe-Loupes-10X-20X/dp/B001C9LG60/>, but you can find them at other sources, too.
- Colored pencil set, for drawing on and creating geological cross-sections and maps.
- Ruler/straight edge.
- Stapler.

### **LAB POLICIES**

- Please read the introductory material in the lab manual by the time we meet in lab.
- Labs are due the next lab meeting (1 week later). If they are turned in on the next class time (Friday) there will be a 10% grade reduction; on the following Monday a total of 30% grade reduction; and a full week late will garner a 50% grade penalty. Labs won't be accepted for a grade later than 1 week overdue (barring legitimate extenuating circumstances.)
- Lab specimens will remain out for your examination through the end of the week and on the following Monday. However, Dr. Holtz will typically replace lab specimens sometime on Monday afternoon.
- You are encouraged to collaborate and interact with each other and with Dr. Holtz while working on the labs. However, all work you turn in must be your own.
- DON'T be a specimen hog! Make sure that others get adequate access to the hand samples.
- ALWAYS return specimens to their appropriate boxes
- Use the dilute HCl wisely:
  - Use small drops, only leave it on long enough to validate whether there is effervescence or not; and wipe it up afterwards.
    - Leaving acid on the hand samples will allow the reaction to run its course, and leave a reaction rind on the rock. This will mislead students in the future)
  - In general, only use acid on fresh surfaces
  - In general, don't drop acid on the fossils.
- We have limited samples, so please be careful with them. Doubly so with the fossils!!
- If you are having problems, don't be shy; ask for help!