

ENV-399

Special Topics

The Geology of New Jersey

Summer I

ENV-399: Special Topics: The Geology of New Jersey

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Course Description : The Geology of New Jersey will be a field-based experience where we will be visiting each of the four physiographic provinces in the state and the surrounding region.

We will be studying all aspects of geology during these outings including: mineralogy and petrology, paleontology and geologic time, surface and groundwater, topography and geomorphology, structural geology, environments of deposition, plate tectonics and mountain building and much more.

Details:

Class will be held on Tuesday and Wednesday from 8:00AM till 4:00PM. This will give us the required amount of time to travel to the selected locations, hike, sample and study the regional geology. **Do not be late!** We will meet at our Oldham Pond Campus to start class. ****The trip to Maryland will require a super early departure. I will give additional details in class.**

You should come very prepared for each class. You need:

-Lunch and drinks

-Rain gear

-Small backpack

-Notebook, pens, pencils

-Sun tan lotion, insect repellent, any necessary medications

-Hiking shoes

-Change of clothes

-Rock hammer, chisel

-Any other items you need for a day in the field. (I have been in the field with each of you before and you are familiar with the process).

**I will provide all necessary reading materials and additional field gear the day of the trip.

Date and Topic Outline

Highlands, Valley and Ridge

7-6 Weiss Ecology Center and Harriman State Park -Iron Mining in New Jersey and New York

7-7 Ringwood, New Jersey-The Ramapo Fault Zone

7-13 Green Pond Conglomerate, Merner Mountain, Morris Conservation Area near Green Pond,
NJ Delaware Water Gap and Sunfish Pond; Great Meadows-Black Soil Belt and Butzville
Boulders

7-14 Mineral Collecting-Sterling Hill Mine, Ogdensburg, NJ

ENV-Picnic-Dr. Callanan's House

Coastal Plain

7-20 Long Beach Island and Barnegat Light, New Jersey-Barrier Island Process

7-21 West Creek, Parkertown and Cedar Run, NJ-Estuaries and Shellfish

(Overnight trip with bay clamming?)

7-27 Paleocene Vertebrates-Aquia Formation, Waldorf, Maryland-(Depart 2AM-long ride but well worth the trip).

Piedmont

7-28 High Mountain, Franklin Lakes and Wayne, NJ -Bedrock and Surficial Geology

8-3 Buttermilk Fall Quarry, WPU and Palisades Sill, Ft. Lee, NJ

Final Exam

8-10 Due in my Mailbox by 4:00PM.

Assignments and Grades:

1 . Field Journal (30 points): You will be required to keep an accurate field journal for each of the places that we visit. The journal should be typed from the notes you take during each outing. Included in the journal should be:

- a. Date, time, location, weather conditions
- b. Topographic map
- c. Geologic map
- d. A detailed sketch of area

- e. Photographs of the area
- f. Geologic age of the area
- g. Rock or sediment type
- h. Geologic process of formation
- i. Types of samples recovered
- j. A summary paragraph for each area visited

2. **Term Paper (30 Points):** You will be required to write a 3-5page, typed, term paper on one of the field sites we visited. The term paper must have at least 5 peer-reviewed references utilized for its compilation. The paper will be due on the last day of class. I will assign each student one of the field locations we visited for the paper. This way there will be no overlap in these papers. I will provide you with more details during our first class.

3. **Final Exam (30 Points):** There will be an in-classroom, open notebook exam given on August 10 th. The exam will be given out at 8:00AM sharp and needs to be completed by 4:00PM. I will be collecting your field notebooks, term papers and final exam on this day.

4. Attendance and participation (10 Points).

Your grade will be based on 100 total points and assigned a letter grade based on the following scale:

A = 91 and above C+= 75-78

A- = 89-90 C = 71-74

B+ = 85-88 C- = 69-70

B = 81-84 D = 68-60

Other General Information

1. Attendance of all classes is **required**. There are no make ups for any aspect of this field-based class.
2. Turn off all cell phones and pagers during class. No text messaging during class! You will be asked to leave!
3. You **do not** have my permission to post any pictures or location information on your facebook.com or any other social networking internet sites.
4. I have reserved the van for our fieldtrips and course. The van holds 13 people.
5. We are invited to a picnic at Dr. Callanan's on July 14th in the afternoon. We will be in the area.

I am looking forward to a great class!

Cheers,

Dr. Becker