# ULSTER COUNTY COMMUNITY COLLEGE

**Sciences, Technology, Engineering, & Mathematics (STEM) Department**

## ESC-220 GEOLOGY OF THE HUDSON VALLEY — SUMMER SESSION I 2019

### COURSE INFORMATION

*Course Code:* ESC-220-20 [40176]
*Days & Times:* May 20 – May 25 & May 28 – May 30 from 8:30 am – 5:30 pm
*Location:* We will initially meet in Burroughs 101 between 8:15 – 8:30 am
*Course Info:* *http://people.sunyulster.edu/schimmrs/esc220*
*Description:* This is a 3.0 credit field course which will introduce you to the geological evolution of east-central New York State by intensive field study. This course has no prerequisites, other than a genuine interest in learning, and is designed for any UCCC students or community members interested in learning more about the geology of our local area.

### STEVEN SCHIMMRICH

*Office:* Burroughs 105F
*Phone:* 845-687-7683
*E–mail:* schimmrs@sunyulster.edu
*Office Hours:* You can always speak to me privately before, during, or after class

### REQUIRED MATERIALS

You will need a field notebook and pens or pencils for taking notes. The following is recommended but not required:

Field book - A *Rite in the Rain* Geology Pattern Bound Notebook 540F

You will also need equipment for spending the day in the field hiking. See below for details.

### WHAT TO BRING

I would strongly recommend bringing the following material every day of the course:

Adequate clothing – Be prepared for the daily weather! Check the forecast each morning.
Adequate footwear – Hiking boots are best. We will be walking in rough terrain at times. Absolutely **NO** sandals!
Water bottle – Having enough water often makes the difference between being miserable or comfortable.
Lunch & Snacks – We will not generally stop for food during the day. Bring enough to keep you happy.
Field notebook – You don't need to bring any other books but the notebook is a must every day!
Backpack – You'll find it handy to carry your lunch, water, notebooks, and other materials.
Hat – Keeps the hot sun off your head when there's no shade around.
Sunscreen – Why get sunburned? I'll have some if anyone forgets theirs.
Insect repellent – Also works against ticks! I'll also have some extra.

### OPTIONAL READINGS

If you would like to learn more about the geology of the Hudson Valley, I will have links to additional information and a bibliography on the course web page a week prior to the start date of the course.

### GRADING

Your grade for this course will be determined as follows:

80% Daily Assessments (5% open notebook quiz + 5% participation = 10% each day)
20% Final Field Exam (open notebook)

### ATTENDANCE

It's very simple. You must attend all eight days of this class if you want full credit. If you miss a class, you miss the points for that day (10% of your total grade each time). There will be no opportunities for a make-up (they are impossible in a fast-paced course such as this).

You must also arrive before 8:30 am each day. Class begins at 8:30 am and that's the time I will begin pulling out of the parking lot with the vans. We will not wait around on the off chance that a late arrival will show up. If you're late, you'll be left behind and end up losing credit for the day.

**DAILY ASSESSMENTS**

There will be eight short-answer quizzes given at the end of each day of the course. You will be allowed to consult your notebooks during the quiz, but only your notebooks and no other resources. Each quiz will be worth 5% of your total grade while the other 5% for the day will be based upon your participation, interest, and enthusiasm out in the field. You will receive a verbal warning if you're in danger of losing the class participation portion of your grade.

**FINAL FIELD EXAM**

The final field exam for the course will be given on Thursday, May 30 at Sam's Point Nature Preserve after lunch. It will be cumulative, require short essay answers, and is based upon all of the material we have covered during the eight days of the course. This will be an open notebook exam but you are not allowed to consult any other resources. The format of the exam will be essay-style questions tying together all of the observations we've made during the eight days of the course.

**CONCERNS**

Mosquitoes – We'll be out of the field long before mosquitoes become active at dusk but I would recommend the application of a good insect repellent with DEET as a precaution if we're in buggy areas.

Ticks – There definitely are ticks in areas we will be visiting (I know this from personal experience) and numerous people have contracted Lyme disease locally. To avoid tick problems, try to stay out of tall grasses, wear long pants, and apply a good insect repellent (again with DEET) to your legs. If you should pick up a tick, don't panic, I have tick pullers and they can easily be removed. Ticks generally need several hours on your body before they can transmit Lyme disease.

Poison Ivy – This three-leafed plant is found everywhere we will be going and causes an intense itchy rash in some people when touched (even touching a leafless poison ivy vine can give you a rash). Learn to recognize and avoid poison ivy (if you don't know what it looks like, ask me and I'll point it out).

Snakes – We will be in areas where copperheads and rattlesnakes are found. It's highly unlikely that we'll ever see a poisonous snake (I count myself fortunate to view such elusive creatures) but if we do the simple rule is to leave them alone and they'll virtually always leave you alone (a statistic I've heard is that 80% of snake bite victims get bit while harassing the snake). I never want to see anyone harassing wildlife!

Smoking – I generally don't have objections to people smoking with some caveats. First, smoking is not allowed at any time in College vans. Second, I would ask smokers to be respectful of other people's desire to breathe clean country air and not second-hand smoke. Third, I never want to see people tossing cigarette butts (or any other litter) on the ground (cigarette butts are not readily biodegradable). Carry a small container and properly dispose of your cigarette butts.

Cliffs – We will sometimes be in areas where we are close to steep cliffs and where you will become severely injured or even die if you slip and fall. Please be alert and very careful around cliff edges. Also, never throw anything off of a cliff (I've seen people almost killed by thoughtless people tossing rocks off cliffs).

Heat – It's summer and it will be hot some of the days we're in the field. Take it from someone who's done fieldwork in the deserts of Utah during the summer– there are some simple precautions to avoid heat stroke. Wear a hat to keep the hot sun off your head, use sunscreen, drink plenty of water (bring at least 2 liters), and if you feel dizzy, lightheaded, nauseous, or have a headache, let me know and then seek out some shade, drink some water (I like to pour some on my head!), and relax for a bit.

Rain – It may rain while we're out in the field. I'll try to keep us out of heavy downpours and thunderstorms but expect to be outside during rain showers. Watch the daily weather forecast and dress appropriately.

Cold – People can get hypothermia in the summer. If it's raining, and we're at higher elevations, it can get chilly. Watch the weather forecast before leaving home each morning and be sure to bring layers of clothes on days which might be wet or cool.

**IF YOU'RE HAVING DIFFICULTIES**

If you're having difficulty with the course material at any time please talk to me as soon as possible! It's usually very easy to resolve student's difficulties if they're taken care of right away and I'm always eager and willing to help but you have to take the initiative. I am always happy to take some time with you on a one-to-one basis to help you understand the course material. Please don't be afraid to talk to me at any time.

**SPECIAL NEEDS**

While I would not consider the hiking and rock scrambling involved in this course to be overly strenuous for healthy adults, it would be difficult if not impossible for people with certain types of physical disabilities prohibiting free movement over irregular terrain (*i.e.* hiking a few miles around North Lake or Sam's Point). I want to make it clear that large portions of this course will be held outside in the field, whether it's 50° and raining or 100° and sunny.

If you're overweight, elderly, or very out of shape, this course may not be doable for you. Please talk to me before the course begins if you have any concerns!

Also, any students with special needs or medical conditions (history of heart disease, diabetes, asthma, allergic reactions to bee stings, etc.) are asked to see me privately at the beginning of the course so that I am aware of what you require to participate in this class and what to do if there's an emergency. I have had first aid training and do carry a simple first aid kit but I don't want to use it!

# ULSTER COUNTY COMMUNITY COLLEGE

**Sciences, Technology, Engineering, & Mathematics (STEM) Department**

## ESC-220 GEOLOGY OF THE HUDSON VALLEY — SUMMER SESSION I 2019

| *Class Date* | *Field Locations* |
|---|---|
| **Monday May 20** | We will meet at UCCC in Burroughs 101 to discuss the logistics of the course and then head out to Bear Mountain and the Hudson Highlands region where we'll discuss the overall geology and geological evolution of the Hudson Valley and examine 1.2 billion-year-old igneous and metamorphic rocks of the Grenville Orogeny – some of the oldest rocks in New York State. We'll also visit some abandoned iron mines and touch on the importance of the region's geology to the Revolutionary War. |
| **Tuesday May 21** | Trip to Westchester County, northern Manhattan, and the Bronx, where we'll examine some of the well-known metamorphic rocks which underlie the City of New York. We'll also examine the Newark Rift sediments (quarried for building brownstone buildings) and the Palisades Sill, a structure formed during the breakup of the supercontinent of Pangea some 200 million years ago. |
| **Wednesday May 22** | Trip to the Connecticut border and then we'll work our way back to the Hudson River and examine a classic sequence of metamorphic rocks developed during the formation of the Appalachian Mountains. At the Mid-Hudson Bridge we'll examine turbidites formed in a deep basin during successive submarine landslides near a volcanic island arc and then move westward toward the Shawangunk Ridge to see the Taconic unconformity. |
| **Thursday May 23** | Trip to examine highly-deformed outcrops along Route 23-A in Catskill, known as the Hudson Valley fold-thrust belt and developed during the formation of the Appalachian mountains. This is a classic field trip locality for colleges and universities throughout the northeast. We will also try to visit a limestone quarry in the area from which we can collect fossils. |
| **Friday May 24** | Trip to Thacher State Park in Albany where we'll examine a classic section of Devonian Period rocks first described by geologists in the mid-1800s. We'll also stop at the New York State Museum in Albany to examine the New York State geology displays. |
| **Weekend May 25-27** | **Memorial Day Weekend**<br>**No classes** |
| **Tuesday May 28** | Trip to visit a number of local outcrops from Accord, High Falls, Rosendale, and Kingston. Represented in these outcrops are a number of different sedimentary rock types of differing ages and environments of deposition. We will also visit mines and quarries from the large natural cement industry which existed in this area during the 1800's and enter a natural cave in a well-developed karst system. |
| **Wednesday May 29** | Trip to North Lake State Park where we'll discuss the formation of the Catskill Mountains and examine the sandstones and shales comprising them. We'll talk about the historic bluestone industry and also see evidence for the existence of a 1 mile-thick sheet of glacial ice which covered the Hudson Valley 18,000 years ago. |
| **Thursday May 30** | Trip to Sam's Point in Ellenville where we'll examine glacial landforms developed during the Pleistocene Epoch ice ages. The Final Exam for the course will be held in the field at High Point in the Sam's Point Nature Preserve after lunch. |

**The above itinerary is tentative and subject to change based upon weather conditions, time, student's physical abilities, and ability to access certain localities at certain times.**

**Also, don't worry is you don't understand a lot of the words in the above descriptions – that's the whole point of this class!**