

ESCI 2210-002 Field Methods in the Earth and Environmental Sciences
Spring 2023

Meetings: Wednesdays, 10:10 am – 12:55 pm

Location: McEniry 405

Credits: 3

Instructor: Dr. Sara Gagné

Office: McEniry 314

E-mail: sgagne@uncc.edu

Office hours: Mondays, 11 am – noon in person in my office or virtual at other times by appointment.

Please use your UNCC e-mail address to contact me. I will not respond to e-mails from other addresses.

Teaching assistant: Elizabeth Chappellear

Office: TBD

E-mail: echappe6@uncc.edu

Office hours: Mondays/Wednesdays 3-5 pm

Materials

- Bring a pencil, a pen, and a notebook to every class

Introduction

Throughout the semester, you will learn the skills, techniques and vocabulary associated with the collection and analysis of data commonly used in a variety of natural science fields of study. The knowledge and abilities you gain in this course will be useful to you if you pursue graduate studies in science and/or if you become an earth or environmental science professional. More broadly, you will become knowledgeable about how to measure and interpret the quality of your local environment, which will be useful in many aspects of your life.

Student Learning Outcomes

This course aims to achieve the following student learning outcomes:

- Student will demonstrate the ability to apply geologic principles and generalizations already learned to new problems and situations (Geology SLO2)
- Students will demonstrate the ability to verbally communicate a scientific topic to the general public and Earth Science professionals effectively (Geology SLO3)
- Students will be able to produce professional/technical documents that present both quantitative and descriptive information in well-structured and organized fashion (Geology SLO4)
- Demonstrate the ability to effectively communicate scientific concepts through effective written communication (Earth and Environmental Science SLO1)
- Demonstrate the ability to effectively orally communicate scientific concepts (Earth and Environmental Science SLO2)

- Demonstrate sufficient familiarity with quantitative and geospatial tools, techniques, and methods to study scientific phenomena and address environmental problems (Earth and Environmental Science SLO4)

Assessment

Final grades will be calculated according to the following:

Participation/pre-class homework	20%
Field journal entries	20%
Assignments	20%
Forest Inventory and Analysis report	20%
Final presentation	20%

Grading scheme

A	90-100%	Excellent
B	80-89%	Good
C	70-79%	Fair
D	60-69%	Passing
F	<60%	Failing

Late policy

Deadlines for submission of work are clearly indicated in this syllabus. Late submissions will be accepted and graded according to the following schedule: work submitted up to 24 hours after the deadline will receive a 25% penalty; work submitted between 24 and 48 hours after the deadline will receive a 50% penalty; and work submitted more than 48 hours after the deadline will not be accepted.

UNC Charlotte Code of Student Responsibility

You are expected to observe the UNC Charlotte Code of Student Responsibility (see <http://legal.uncc.edu/policies/up-406>).

Electronic devices policy

The use of cell phones is not permitted in this course unless specifically requested by the instructor. Persistent illicit cell phone use may result in a loss of marks and/or you will be asked to leave the classroom setting.

The use of laptops is permitted in this course for viewing lecture slides and/or taking notes. If you do plan on using a laptop for these purposes in the course, please inform me immediately of your intention. Laptops used for any other purpose may result in a loss of marks or being asked to the classroom setting.

UNC Charlotte Code of Student Academic Integrity

You are expected to observe the UNC Charlotte Code of Student Academic Integrity (see <http://legal.uncc.edu/policies/up-407>). The Code prohibits cheating, the fabrication and falsification of information, multiple submission of the same work for credit, plagiarism, the abuse of academic materials, and complicity in academic dishonesty.

If you are unclear as to what constitutes a violation of the Code, please see the TA or me during office hours.

Students with disabilities

If you have a disability for which you wish to receive academic accommodations, please provide me with a letter of accommodation from the Office of Disability Services at the beginning of the semester. For more information about disability services go to <http://ds.uncc.edu/>.

COVID-19 attendance policies

Students are expected to attend every class and remain in class for the duration of the session when it is safe to do so in accordance with university guidance regarding COVID-19. Failure to attend class or arriving late may impact your ability to achieve course objectives which could affect your course grade. An absence, excused or unexcused, does not relieve a student of any course requirement. Regular class attendance is a student's obligation, as is a responsibility for all the work of class meetings, including tests and written tasks. Any unexcused absence or excessive tardiness may result in a loss of participation points.

Students are encouraged to work directly with their instructors regarding their absence(s). For absences related to COVID-19, please adhere to the following:

- **Complete your Niner Health Check** each morning.
- **Do not come to class if you are sick.** Please protect your health and the health of others by staying home. Contact your healthcare provider if you believe you are ill.
- **If you are sick:** If you test positive or are evaluated by a healthcare provider for symptoms of COVID-19, indicate so on your Niner Health Check to alert the University. Submit a copy of your Niner Health Check notification email to your instructors. Upon learning that you have tested positive or have been diagnosed for symptoms of COVID-19, either from your reporting or from Student health Center testing or diagnosis, representatives from Emergency Management and/or the Student Health Center will follow up with you, and your instructors will be notified of the need for accommodations, as necessary.
- If you are **unvaccinated** and have been notified to self-quarantine due to exposure, indicate so on your Niner Health Check to alert the University. Representatives from Contact Tracing/Emergency Management and/or the Student Health Center will follow up with you as necessary. Submit a copy of your Niner Health Check notification email directly to your instructors.
- If you are **vaccinated AND symptomatic AND have been notified to self-quarantine** due to exposure, indicate so on your Niner Health Check to alert the University. Representatives from Contact Tracing/Emergency Management and/or the Student Health Center will follow

up with you as necessary. Submit a copy of your Niner Health Check notification email directly to your instructors.

To return to class after being absent due to COVID-19, students should follow the instructions below:

	Residential Students	Non-Residential Students
Quarantine -- Close Contact UNVACCINATED	<ul style="list-style-type: none"> Resident students remain under the care of the Student Health Center and will be deemed clear to return to campus activities by a clinical professional. Once deemed cleared to return to campus activities, the COVID-19 Registry will send an email notification that you should forward to your instructor(s) as verification you've been cleared to return to class. 	<ul style="list-style-type: none"> To return to class after being absent due to a period of self-quarantine, non-resident students have two options. <ul style="list-style-type: none"> Option 1: Fulfill your full 14-day quarantine requirement, submit a Niner Health Check to confirm no symptoms, take a screenshot of the Niner Health Check clearance screen and email it directly to your instructor(s). Option 2: If you have remained asymptomatic during your quarantine period, on day 9, you may be tested at the Student Health Center (SHC). You can then submit the documentation of a negative test from the SHC to your instructor(s). When you call the SHC to set up an appointment, make sure to tell them you are on day 9 of quarantine and want to test out.
Quarantine -- Close Contact VACCINATED	<ul style="list-style-type: none"> You do not have to quarantine unless you are symptomatic. If you are symptomatic, resident students remain under the care of the Student Health Center and will be deemed clear to return to campus activities by a clinical professional. Once deemed cleared to return to campus activities, the COVID-19 Registry will send an email notification that you should forward to your instructor(s) as verification you've been cleared to return to class. 	<ul style="list-style-type: none"> You do not have to quarantine unless you are symptomatic. If you are symptomatic, be tested immediately. You may call the Student Health Center to set up an appointment. Make sure to state you are symptomatic and need a test. You should remain in quarantine until your test results are returned. If negative, you may forward the documentation you receive from the Student Health Center to your professors. If positive, you will enter isolation and should follow the protocols below.
Isolation -- Positive COVID-19 Diagnosis	<ul style="list-style-type: none"> Resident students remain under the care of the Student Health Center and will be deemed clear to return to campus activities by a clinical professional. Once deemed cleared to return to campus activities, the COVID-19 Registry will send an 	<ul style="list-style-type: none"> To return to class after being absent due to a COVID-19 diagnosis, students should submit an online absence verification request form to Student Assistance and Support Services (SASS). Students should attach their positive test results directly to their request form. If you have additional medical documentation regarding your positive test, such as additional dates you should remain out of

	Residential Students	Non-Residential Students
	<p>email notification that you should forward to your instructor(s) as verification you've been cleared to return to class.</p>	<p>class, you may also attach this directly to your request form.</p> <ul style="list-style-type: none"> • Instructors will be notified of such absences once SASS is able to process your request. You should also forward your instructors any correspondence from University Contact Tracers that indicates your isolation end date due to a positive test result.

If a student provides faculty with correspondence from Emergency Management, University Contact Tracers, the Student Health Center, and/or Student Assistance and Support Services regarding their specific directive (self-quarantine, quarantine, or isolate) and/or indicating the student's isolation end date, this correspondence serves as official University documentation. Any of these forms of University communication are sufficient for reentry into the classroom.

SEMESTER SCHEDULE (subject to change)

Week	Date	Topic/Activity	Deliverable (on Canvas)
1	Jan 11	Introduction to course Pace and Compass Mapping Exercise #1 Standard compass use	
2	Jan 18	Pace and Compass Mapping Exercise #2 with GPS	Pace and Compass Mapping Exercise #1
3	Jan 25	Pace and Compass Mapping Exercise #3 with Google Earth Pro Benchmark and transit Datum, spheroid, projection, UTM	Pace and Compass Mapping Exercise #2 Field journal (entries for weeks 1 & 2)
4	Feb 1	GPS navigation activity	Pace and Compass Mapping Exercise #3
5	Feb 8	Soil profiles in class and in the field	Field journal (entries for weeks 3 & 4)
6	Feb 15	Forest Inventory & Analysis (FIA) program FIA report instructions FIA site set-up and data collection	Field journal (entry for week 5)
7	Feb 22	FIA data collection Using Excel and FIA Data	
8	March 1	NO CLASS: SPRING BREAK	
9	March 8	Using Excel and FIA Data	Field journal (entries for weeks 6 and 7)
10	March 15	Creek Channel Hydrology and Morphology Part I	Figures for FIA report
11	March 22	Creek Channel Hydrology and Morphology Part II Final presentation instructions	
12	March 29	CATCH UP DAY: Work on FIA report and final presentation in classroom	Field journal (entries for weeks 10 & 11)
13	April 5	Groundwater and Wells – bail test	
14	April 12	Stream macroinvertebrates	Field journal (entry for week 13)
15	April 19	Groundwater assignment	Macroinvertebrate assignment Groundwater assignment FIA report
16	April 26	Weather stations & microclimate Microclimate assignment	Microclimate assignment

***Final presentations will occur during the final exam period on May 10th, 8:00 – 10:30 am.**