



EVRN 460 **Field Ecology**

Sections: 21732, 10754, 13555, 25531

Instructor Contact Information



Lisa Castle

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Office

3031 Malott for office hours only

Office Hours

Monday 12:20-2 (or make an appointment)

Additional Information

Work Office: Higuchi 147 (Kansas Biological Survey)



Naupaka Zimmerman

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Office

Haworth 8026

Office Hours

Th 10:30-12:30, or by appointment



Kathryn Keefe

Phone: 3149748808 (text for lab communications only)

Email: Kathrynkeefe@ku.edu

Office

EVRN lounge (Malott 3039)

Office Hours

Tues. 2:00-3:00 (or communicate for other date + time)

Connor Brown

Phone: 409-434-8520 (text for lab communications only)



Email: Connor.Brown@ku.edu

Office

Malott 3038/Moore 405

Office Hours

Monday: 12-2 @ Malott 3038

By appointment @ Moore 405

Class Time and Location

Monday Discussion/Lecture:

Meet in Blake 114 from 2:00–2:50 PM

Lab sections: (Wednesday, Thursday or Friday — all in Malott 3038) Meet at 1:00 PM, class ends at 5:30 PM

M 2:00 PM - 2:50 PM BL 114

Course Hours

Credit Hours: 3

A [credit hour](#) is a way to measure the amount of work you're expected to do for a class. It's based on the learning goals of the course and how much time you'll spend on it. During a full length (15-week) semester, you can expect to spend about one hour in class and another two hours on homework or studying each week for each credit hour.

For classes completed in other formats, like an 8-week semester, the time commitment may be different. The exact hours can vary, but you can generally expect to spend a similar amount of time in class and on coursework in total, adjusted for the shorter timeframe.

Instructional Methods

In Person

Course Description

An introduction to research methods for environmental science. The course includes fieldwork in diverse ecosystems (lakes, streams, forests, prairies). It emphasizes the development of skills in data analysis and interpretation that are essential to a full understanding of environmental issues. Enrollment limited to environmental studies majors, or by instructor permission. Prerequisite: Junior or Senior standing (Senior preferred) with 60+ credit hours.

Learning Outcomes

At the conclusion of this course, students will be able to

- Understand how scientists and technicians measure environmental conditions. We'll record measurements and collect samples during our lab sessions. For your data to be useful, it's important to be mindful as you are collecting samples and recording measurements to ensure accuracy. It's equally important to document the procedures you followed to collect it—especially details that differ from pre-written instructions. For anyone planning to work in environmental science, developing good habits for working with data are essential: paying attention to details of procedure; documenting what was done; understanding and managing sources of variability in data; and communicating clearly with colleagues during and after the fieldwork. These are the components of “QA/QC”—quality assurance and quality control—which are fundamental to all professional-level work in environmental science, whether one is working with one's own data or data obtained by others. In this class we'll have limited time to discuss the theory and concepts behind the methods in detail. But for those who want to learn more, we'll provide references to that background informatio
- 2. Understand how environmental professionals analyze data they obtain. In this course you'll gain practice in working with quantitative data. We'll focus on core procedures: organizing data using spreadsheets, calculating summary statistics

to characterize data sets, and visualizing data with simple graphing tools. The course will provide an introduction to important tools for data analysis: the R statistical environment and GIS.

- 3. Understand how environmental professionals interpret results of that analysis. We need context to make sense of our data. (What do our data reveal about ecosystem health? What can be done to maintain or improve its condition?) Our goal is to help you make those connections on your own, anchored in direct experience with these ecosystems during our lab sessions.

Course Materials



dedicated field notebook

Subtitle: (waterproof Rite in the Rain suggested)

Technology Requirements

While the taking of physical, hand-written notes is required, the ability to capture images in the field and access mobile applications will make class easier. Talk to the instructors if you do not have the ability to use image-based apps in the field, and we will consider alternative arrangements.

Assignments will require full computer access to the internet and software that is freely available to KU students.

Minimal Technical Skills Needed

The course can present challenges because our students represent a broad range of quantitative skills. Some of you may have taken more than one statistics course and already use various analytical procedures in your own work. Others have a more difficult relationship with math and may need help getting started with spreadsheet apps such as Excel. Most of us are somewhere in between!

At a minimum you will need to be able to use Excel (or equivalent) to organize and summarize data. You'll need to use simple statistics and graphing tools for some assignments. If your skills are rusty or you never learned, be prepared get help from the instructors as soon as possible.

Similar to the range in quantitative skills, we understand that students enter this course with diverse backgrounds in natural science. We'll provide links to background reading and other media to help you better understand our fieldwork. But because we emphasize hands-on experience in the class sessions, we won't spend a lot of time reviewing those topics.

If you have questions about what we've done or discussed in class, or how to interpret results, ask for help! If your natural science background is shaky, be prepared to spend time reading outside of class sessions.

We're happy to schedule individual—or better, group—sessions outside of class time to help you work through data analysis assignments.

Whatever you do, don't delay working on assignments out of embarrassment or uncertainty! The semester moves quickly, so it may be very difficult to catch up if you fall behind on your work.

Grading

Descriptions of the individual assignments and how they are to be graded are posted on the course Canvas site.

Participation in laboratory and field activities is essential (see Attendance section.) Participation also includes active involvement in class discussions and teamwork in the field. Preparation is also important for successful participation. In addition to dressing appropriately for fieldwork, "preparation" includes completing any assigned reading before class.

In this course, data will be gathered and shared by the class or by groups of students working together. However, written assignments with analysis and discussion of the data must be the product of an individual student's work.

Grades will be based on a percentage of the total points:

letter grade percentage range

A 93.50 and above

A– 90.00–93.49

B+ 86.50–89.99

B 83.50–86.49

B– 80.00–83.49

C+ 76.50–79.99

C 73.50–76.49

C– 70.00–73.49

D+ 66.50–69.99

D 63.50–66.49

D– 60.00–63.49

F 59.99 and below

Here's the overall plan for assignments:

Preparation Assignments include **Canvas Quizzes** and **Discussions**. These are typically 3-5 points and are designed to prepare you for class. Unless stated otherwise, the quizzes are intended to engage students with the reading and are “open your book” assessments. There may be more than one preparation assignment in a week.

In-Class Activities will happen in every lab and possibly during some Monday meetings. In lab activities will be worth 8-10 points. Make sure that your full name is on any group data sheets to earn these points. While you cannot re-do a lab you miss, you can replace a missed lab with Ecology in Action (see below).

Points will also be awarded for field notebook checks 2-3 times during the semester.

Homework assignments involve data analysis and interpretation and will be worth 5-20 points, depending on the complexity of the task (e.g. the few 20 point assignments include data from multiple labs compared in multiple ways).

Projects will require students to combine student-collected phenology data with data from other sources to address practical local concerns. Multiple components will receive points, as will the final oral and written presentations. Students will have individual responsibilities in a group context. The project in it's entirety will be worth approximately 100 points, divided into multiple components.

Ecology in Action (EIA): Students are encouraged to “do” ecology throughout the semester. Completion of 1 “full” activity (or 2 smaller activities) is a required 5 point assignment. Completion of additional activities can be used to replace points from a missed in-class lab assignment and for minimal extra credit points if no labs have been missed. (e.g. if you choose not to do any of the activities a grade of 0/5 is entered. If you do 2 full activities and miss one lab because you were sick, you earn 5/5 for the Ecology in Action and the in-class assignment for the lab you missed is entered as “excused” rather than a zero.) Students are responsible for keeping records of their EIA activities and submitting summaries in a timely manner.

Always contact us if you have questions or difficulty completing assignments.

Course Assignments and Requirements

Due Date	Name	Type	Points
	Please See "Grading" Section in Addition to Course Modules		
8/22/25	Feinsinger Question Exercise	Assignment	8

Accommodation

The Student Access Center (SAC) coordinates academic accommodations and services for all eligible KU students with disabilities. If you have a disability for which you wish to request accommodations and have not contacted SAC, please do so as soon as

possible. They are located in 22 Strong Hall and can be reached at 785-864-4064 (V/TTY). Information about their services can be found at access.ku.edu. Please contact me privately in regard to your needs in this course.

Attendance Policy

Attendance at lab sessions and Monday discussion sections is essential to fulfill the goals of the course.

If there is a valid reason that you cannot attend a lab session, contact the instructors as soon as possible to make alternate arrangements for completing the work.

Communication is essential—We are willing to work with you, as long as we know what's going on. Valid excuses for missing class include illness or family emergencies. We don't require a doctor's note or other documentation to support your excuse.

Class Behavioral Expectations

Be on time! The lab sections will meet in Malott 3038 before going out, unless we've made other arrangements for that session. If bad weather forces postponement or cancellation of scheduled fieldwork, we will still meet in Malott to do other activities. However, don't just assume that fieldwork will be cancelled because of rain or bad weather! Be prepared to go out unless you are told otherwise by your instructors. You should bring a field notebook and a water-resistant writing device (a pencil is fine).

Be prepared for the field! In addition to your notebook, bring water, sunscreen, and snacks. Wear weather and field appropriate clothing and shoes (long pants, hat, and shoes that can get muddy most days).

Always check the course Canvas site for updates if the weather is uncertain.

Incomplete Grades

You may be assigned an 'I' (Incomplete) grade if you are unable to complete some portion of the assigned coursework because of an unanticipated illness, accident, work-related responsibility, family hardship, or verified learning disability. An Incomplete grade is not intended to give you additional time to complete course assignments or extra credit.

unless there is indication that the specified circumstances prevented you from completing course assignments on time.

Late Work/Make-up Policy

If you are unable to complete an assignment on time, ask your instructor or TA for a short, no-penalty extension—before the due date/time. Otherwise, assignments will lose points each day they are late!

It is your responsibility to talk with the instructors about the late assignment before the official deadline. We're happy to work with you, but the calendar doesn't give us much slack if you delay.

Prompt communication with Dr. Zimmerman, Dr. Castle or your GTA is essential if you are having trouble with an assignment!

Academic Integrity

Academic misconduct will not be tolerated in this class.

"An instructor may, with due notice to the student, treat as unsatisfactory any student work which is a product of academic misconduct. Cases of academic misconduct may result in any or all of the following penalties: reduction of grade, admonition, warning, censure, transcript citation, suspension, or expulsion. The following information about Academic Misconduct is discussed in Article II, Section 6 of the rules and regulations of the University Senate. "Academic misconduct by a student shall include, but not be limited to, disruption of classes; threatening an instructor or fellow student in an academic setting; giving or receiving of unauthorized aid on examinations or in the preparation of notebooks, themes, reports or other assignments; knowingly misrepresenting the source of any academic work; unauthorized changing of grades; unauthorized use of University approvals or forging of signatures; falsification of research results; plagiarizing of another's work; violation of regulations or ethical codes for the treatment of human and animal subjects; or otherwise acting dishonestly in research."

It is your responsibility as a KU student to make sure you understand academic honesty and misconduct. The policy is described at this link: [Academic Dishonesty Policy](#).

The website of the KU Writing Center provides some excellent information and resources on how to avoid plagiarism.

[KU Writing Guides](#)

In addition to the above, we also consider the following to be academic misconduct:

- Submitting assignments from a group activity without participating in the activity.
- Having any other person (whether or not enrolled in the class) complete any assignment for another student.
- Failing to write their papers in their own words using proper citations. (e.g. don't use AI to write your answers.)
- Failing to follow other rules outlined by the instructor throughout the semester.
- Posting inappropriate, offensive, or harassing comments in course discussions or on other commenting and peer feedback tools.

Student Survey of Teaching

You will have multiple opportunities to provide feedback on your experience in this course. Suggestions and constructive criticism are encouraged throughout the course and may be particularly valuable early in the semester. To that end, I will use mid-semester surveys and/or reflection assignments to gather input on what is working well and what could be improved. You will also be asked to complete an end-of-semester, online Student Survey of Teaching, which could inform modifications to this course (and other courses that I teach) in the future.

Student Resources and University Policies

Please visit the Student Resources website ([KU Academic Success](#)) for a list of student resources and university policies.

Safety Considerations for Lab Sessions

On fieldwork days, appropriate clothing must be worn at all times. Each section of the course requires specific and appropriate attire, due to the inherent hazards of each

exercise. Field conditions can vary greatly from week to week. Be prepared. On hot days we suggest you bring sunscreen, insect repellent, a hat or visor, and water. Dress accordingly.

We'll provide a preview of expected conditions at the sites we visit each week, along with specific recommendations for clothing. Here's an overview:

Terrestrial (Prairie/Forest) Fieldwork: There are ticks, chiggers, poison ivy and poisonous snakes in our area. Therefore, your attire should include long pants and good walking shoes. Shorts are generally a bad choice. No sandals for these labs. Rubber boots are inexpensive and work very well as protection especially in the forest. (Tuck your pant legs into the boots.) Additional information about protecting yourself from these hazards is provided in the field safety documents posted on Canvas.

Lake/Pond/River Fieldwork: Expect to get wet and (possibly) muddy. Shorts are okay; long pants offer better protection from sun but should be made of quick drying fabric. Old tennis shoes or waterproof sandals with straps are best. No flip-flop sandals (too easily lost). Students must have life jackets nearby at all times when in a boat or canoe. If there is a thunderstorm in the area, all boats will leave the water as quickly as possible. All students will stay out of the water under such conditions. Swimming is not allowed.

Sunlight is reflected from the water, so UV protection is especially important for the lake lab sessions.: sunscreen and a hat or visor are strongly recommended. You should also bring drinking water. None of the water we working in is safe to drink

Stream Fieldwork: Expect to get muddy... possibly very muddy at some sites! Shorts are OK. The course has enough chest or hip waders available for every student, in sizes from 5 to 14 (M/F). If you can wear them, we highly recommend these! Just remember to bring a pair of socks and a belt (to keep hip waders from falling down).

Some things to consider if you're unsure: Waders can be less comfortable to wear but pond and stream fieldwork can be muddy...sometimes very muddy! Another point in favor of waders: they offer protection from leeches, which live in ponds and streams we will visit. (Parasitic leeches in our area are not harmful or particularly abundant, but if the idea of a leech on your foot creeps you out--choose the waders!)

If you don't wear the course waders—or your own pair—old tennis shoes or waterproof sandals with straps are recommended footwear. Flip-flop sandals are no good: they are

too likely to get stuck in the mud and offer less protection from sharp objects you will encounter. Rubber boots are acceptable, but be aware that you may encounter water that is too deep for them.

In class lab-work: No Sandals. You must wear closed-toe shoes in the laboratory (campus safety rules).

Subject to Change Statement

Because this is a field course, your instructors are not completely in control of the schedule! Check Canvas for updates if you have any questions. We'll also use text messages in case of last minute changes!

Course Schedule

Schedule subject to change based on

Wk	Date	Monday Topic	Lab Topic
1	Aug 18	Phenology	Campus Tree Tour
2	Aug 25	Campus Environment	Urban Forestry
3	Sept 1	LABOR DAY	Local Restoration
4	Sept 8	Lake Basics	Lake 1
5	Sept 15	Lake Biology	Lake 2
6	Sept 22	Wetland Basics	Wetland
7	Sept 29	Prairie Basics	Blazing Star Prairie
8	Oct 6	Intro to R	Campus Prairies and Soil
9	Oct 13	NO CLASS	Stream 1
10	Oct 20	GIS Overview	GIS
11	Oct 27	Aquatic Insect Info	Invert Keying
12	Nov 3	Non-perennial Streams	Stream 2 Catch-up
13	Nov 10	Forestry-Wildlife	Wildlife 1
			Presentation Prep
14	Nov 17	Forestry	Wildlife 2 Campus follow-up
15	Nov 24	Presentation Prep	THANKSGIVING

16	Dec 1	Friday Presentations	Presentations
17		Don't meet during finals	