

ENVS 15 Natural History of UC Santa Cruz Campus Syllabus

Summer session 1: June 25 - July 25, 2024

Class meets: Tuesday, Thursday 9am-12:30pm

NO CLASS Thursday July 4 or July 11

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Office hours: Tuesday after class 12:30-1pm or by appointment

Course description

In this course we will observe and discuss different aspects of the natural history of UCSC campus (geology, ecology, plants, animals, human history, land management etc). By honing observation skills with all of your senses, this course aims to develop your relationship to nature and ability to learn about the natural history of any place and your relationship to it.

Grading/Expectations:

Be on time. Show up for every class. A half letter grade is dropped every class you miss.

50% Attendance and participation. We go out every meeting, rain or shine.

30% Weekly Field Journal Assignments that will take ~4 hours and are intended to help develop your relationship to nature, observation and journaling skills.

10% Oral presentation to the class.

10% Final (July 23) on identification, topics and processes we discuss in class, species we've seen.

(Participating in pop verbal quizzes is expected throughout the course!)

I will not accept late assignments.

Course Materials: (Bring these with you every week)

- Highly recommended: The Natural History of the UC Santa Cruz Campus: 2008; 2nd ed. edited by Haff, Brown, and Tyler, for sale at the Baytree Bookstore and available at the Norris Center of Natural History in Nat Sci 2.
- One field guide that applies to UCSC or this region of CA: At the library at the Norris Center
- Field journal/notepad and pen/pencil: Small is ok, but not tiny. You will need to be able to remove pages to turn in assignments. Best is blank, unlined paper. You may also want thicker than regular paper for illustrations/watercolors.
- A hand-lens/loupe: Can be purchased from Bay Tree Bookstore—ask to purchase one at the register; ~\$8. Some may be available at the Norris center.
- Binoculars: Must have for birding! The UCSC Ken Norris Center may have a few pairs for loan—come see me after class. You will need a pair when we go birding. Please borrow them if you can't buy a pair. If you're interested in purchasing a pair, www.eagleoptics.com has great ones and so does REI.
- Backpack: To put all this stuff into.

You will need for ALL class meetings:

- Dress in layers and bring warm layers be prepared for all kinds of conditions.
- Wear comfortable walking/hiking shoes---closed-toed, no sandals.
- Bring snacks, water, sun hat, sunscreen. Long sleeves/pants recommended.
- Be prepared for poison oak and insects. Optional small tarp or pad to sit on.

Field etiquette:

- Respect one another and the unique set of circumstances and knowledge that each of us bring to this class.
- Be present. Stick to class subjects when talking during class time. We were born with two ears and one mouth, use them proportionately.

Weekly class time: **Your participation is mandatory.** This means engaging with the material, asking questions, speaking up, sharing some of what you've written, talking with your classmates. We will spend the majority of class time exploring various parts of our wild campus. Time in the field will focus on direct observation and interpretation of various elements and organisms within the natural world. Expect a mix of focused group and individual activities as well as time for exploration.

We will move slowly as we settle into nature time. We will get to know the lives and stories around us of biotic and abiotic things. We'll inquire about what we're seeing, hearing, smelling, touching, and tasting. We will start each class at sites to be determined each week. These will be announced in class the week prior. Classes will vary with sometimes a short lecture, quiz, meditative, observational, group or individual activity or writing exercises. Each week we'll wrap up with a reminder about the week's journal assignments.

Journal Assignments: Assignments will be published in Canvas. These assignments are designed for you to develop and document your process of becoming a naturalist and recording your observations in a useful way. There is a specific format to start off with, then the content is open to many variations of interpretation.

Many of them will take place from one specific "sit spot." This is one consistent location on campus where you will sit and observe. Ideally this location is quiet, away from people, off any main paths and takes 5-20 minutes to reach. Don't stress about finding the perfect site. Every place has much to offer. By the end of the session this one location will prove to you that you can learn an incredible amount about the world (and about yourself) by looking closely at what's going on in one spot. Weekly assignments will have you focus on a different aspect of your sit spot, including its topography; its vegetation; its animal inhabitants; its trails big and small, faint and worn; and will ask you to stretch your awareness and to question, question, question.

Final: July 23 will allow us to review in-class observations we'll be making. It will be cumulative in content, ie, it will cover any discussion topics and information we have seen in the field during any of our class sessions. Smaller pop quizzes periodically throughout the course will encourage you to pay close attention to the world around you, and take complete notes and actually digest the information we discuss in class.

Final Presentation: During our last class session, each student will present a 5 minute talk on a natural history subject of their choosing. This can be focused on any one species, landscape issue, management issue or natural process that they have directly observed in their solo time. This is not a research project. This is a talk that describes your personal experience with the subject.

Resources: We have many. The Ken Norris Center for Natural History has its collections, as well as a library of field guides to consult. Canvas will host additional resources.

WEEKLY SCHEDULE

Tuesday, June 25 9am-12:30pm

Meeting place: Nat Sci II room 229

Topics: Intro to: class, natural history, journaling methods, sketching, taking notes, resources, sit spot, perspectives: landscape view vs. micro view. A field trip outside - Redwoods, getting in touch with our senses, journal entry.

Due: none

HW:

1. Check out 1 field guide of interest.
2. Journal assignment #1 with partner
3. Come to the next class prepared to give a couple minutes report on what you learned from your field guide and how you used it to enhance your observations in nature.

Thursday, June 27 9am-12:30pm

Meeting place: East field house

Topics: Human and land use history, geologic overview, plants

Due: Journal assignment #1

Be prepared to share a journal entry with class, then turn in journal exercises.

HW: Journal assignment #2- Sunrise and sunset at sitspot

Tuesday July 2 9am-12pm

Meeting place: Arboretum main parking lot

Topics: Watching birds, bird identification, behavior, vocalizations, resources

Due: Journal assignment #2

HW: Journal assignment #3 (Mapping) #4 (Mind's eye) #5 (Birding - part 1 is with a partner)
Study/review notes and species we have covered so far. Be able to ID all that we cover.
Be prepared to share an entry with class, then turn in all journal exercises.

Thursday July 4 -NO CLASS

Tuesday, July 9 9am-12:30pm

Meeting place: Norris Center

Topics: Upper campus forest composition, chaparral, fire history, patterns and management

Due: Journal assignments #3, 4, 5

HW: Journal assignments #6 (Plants), #7 (goup- fire management)
Study/review notes and species we have covered so far. Be able to ID all that we cover.
Be prepared to share an entry with class, then turn in all journal exercises.

Thursday July 11-NO CLASS

Tuesday July 16 9am-12:30pm

Meeting place: Younger Lagoon Reserve- Coastal Campus

Topics: YLR tour

Due: Journal assignments #6, 7

HW: Journal assignments #8 (undominance)

Study/review notes and species we have covered so far. Be able to ID all that we cover.

Be prepared to share an entry with class, then turn in all journal exercises.

Thursday July 18 9am-12:30pm

Meeting place: TBD

Topics: Herping with Alex

Due: Journal assignments #8

HW: Journal assignment #10a/b Work on Niche Presentation

Extra credit; additional Seep Zone trail assignment

Study for quiz

Tuesday July 23 9am-12:30pm

Meeting place: West entrance

Topics: Final in the meadow, then hike to Wilder creek

Due: Journal assignment #10c/d Extra credit optional journal entries

HW: Work on presentation

Extra credit; sit spot entry or birding walk entry

Thursday July 25 9am-12:30pm

Meeting place: Nat Sci 229, then we will hike into the redwoods

Topics: Group hike, Final presentations

Due: Final presentations, extra credit

ENVS 15: Summer 2016 Field Journal guidelines

As described in the beginning of the syllabus, your field journal is a vital piece of your academic evaluation. More importantly, if you discipline yourself to generate thorough, organized entries using the format that is detailed below, your journal/notebook for this class will be MUCH more useful to you after this class is long over. You should use a spiral bound notebook with perforated edges so you can rip pages out—if you have some other kind of notebook that you can easily tear pages from, that's fine too. EVERY WEEK, you will rip out and turn in your newly completed journals at the start of class. The following week, I will give them back to you and collect a new set.

Proper Journal Format: The Grinnell Style

For all entries in your field journal/class notebook, you will use a format developed by Joseph Grinnell, a biologist who founded UC Berkeley's Museum of Vertebrate Zoology in the early 1900s. His philosophy, which has been adopted by thousands of field scientists today, was that field notes were mainly for the use of *others* and so a standard format was necessary to facilitate fast retrieval of information. Although few others will probably refer to your notes for this particular class, one very important other will: your *future self*.

In order for your notes to be of maximum use to even yourself, it is of paramount importance to include the *context* of any notes or journal entries you make. Context covers a broad set of things, such as the date, your location, your name, and the objective of your entry. But context can also include descriptions of the terrain around you, the weather conditions, and the time of day. It may even include

your own summary reflections after witnessing an event in nature, or after completing a reading or having a discussion in class.

Some general journal guidelines.

☑ Your heading (name/date/location, page #) needs to be written atop **EVERY** new page for multiple page entries. This is the most often overlooked part of keeping good field notes. Try to develop this habit

right away. I will remind you of this and ultimately, I will deduct points from your journal if you don't keep this habit up.

☑ Don't forget to state the journal entry's context at the start of each entry (see below)

☑ Record the date in your journal in an unambiguous way by writing it like this: **3 Apr 2012** (day followed by the three-letter abbreviation for month and a four-digit year). Avoid writing dates like 4/3/12 (in some places this would be interpreted as March 4, not April 3, so please get in the habit of writing dates as described above).

Observing in the field—the process

Step 1. Slow down, make yourself comfortable, and be patient—the longer you observe, the more detail you see. Focus outward, set aside your preconceptions, and see things as they are rather than how you expect them to be. Unless you are setting out to focus at a particular scale, allow yourself to scan at a variety of scales—from the few square inches of soil at your feet to the entire visible landscape.

Step 2. Observe, describe, and record. Use words, sketches, and maps to produce a snapshot of the ecological story in front of you. Be as *specific*, *descriptive*, and *detailed* as possible. Be patient; it takes practice to balance the looking and the writing.

Step 3. Try to interpret what you see. Don't speculate wildly, but instead ask questions based on what you see. Then, look back, consider possible answers, or “spin the wheel”—that is, look for different ways to ask questions that can be answered through further observation.

Recording field observations

It is essential to learn to keep clear and accurate records to ensure that your observations have lasting value.

Style. It is best to record your field observations first hand, while the subjects are there in front of you. Write in present tense to capture the action as it happens. Use complete sentences or at least complete thoughts; random fragments and phrases are hard to understand later. Minimize use of abbreviations and explain those that you use. The bottom line is: be concise but complete and clear, so that anyone can read and understand what you write. It is great to include personal reflections on your observations, try to remember to not anthropomorphize objects. Rather, use your personal reflection to understand how your own unique perspective may effect the lens which you experience things through. This is different from a diary where you focus only on things going on in your life and your thoughts. Keep your focus looking outward in your field journal and write about what you observe and your related thoughts. Finally, all entries must be in dark ink and writing must be legibly!

Content. A complete field observation record includes some or all of the following elements:

1. Heading At the top of each page record the date, location, page number, and your name
2. Description of the context
 - What* are you about to do? What are your objectives and your methods?
 - At what *scale* are you observing (landscape, stand, organism, single flower)?
 - When* are you observing?

Where are you observing? (Use words, maps...)
What are the conditions (sky, weather, wind, tide)?
What is the terrain (slope, vegetation, soil, aspect)?

3. The observations themselves
What do you notice? What do they remind you of? What is it similar to?
Describe and/or identify the plants/animals, shapes, sizes, colors, species, genders, ages, etc.
How many? Count or estimate the relative numbers or population size.
How are the organisms distributed with respect to habitats & other organisms?
What are they doing? Describe the behaviors.
4. Summary and reflections
What patterns did you notice? What are the possible reasons for these patterns? What questions might you try to answer next time?
5. How are you reacting to your experience? Did your mood change throughout the time? What is your perspective today? What emotions are you feeling? Do you think that impacts the way you conduct this entry?

The diagram shows a hand-drawn rectangular box representing a journal page. At the top, it is labeled 'Heading: Name/Date/Location'. Below this is a section labeled 'Objective/Context:'. The main body of the page is divided into two parts. The upper part is labeled '1200' on the left and 'Journal Entry:' on the right. Under 'Journal Entry:', there are four lines of text: 'Class Notes', 'Nature Awareness Journals', 'Internship reflections', and 'Natural history research'. The lower part of the page is labeled '200' on the left and 'Summary/Reflections:' on the right.

Here is a sample generic journal page depicting the basic Grinnellian format as applied to this class

C. Lang 2 Apr 2012

CA: SC2 Co.: SC2: UCSC: Arboretum

Objective: First day of ENVIS 179, write discussing field journal formats

12:00 The Grinnell-style field journal format is also applicable to taking Class notes,.....

Context of any entry is hugely important when others refer to your notes (including your future self)

1:30 Summary: The Grinnell style of field journaling is really useful. I'm really going to discipline myself to use this throughout the whole quarter.

Here is a specific example of how to use Grinnell style for your class notes


C. Lang 5 Apr 2012

CA: SC2: SC2: UCSC: Moore Creek in Willows directly north of back gate of UCSC Arboretum

Objective: I'm here to find + explore a sit spot that I will frequent throughout the quarter. My first task is to explore this spot, record observations, make sketches of interesting species I find, + sit + be attentive to my senses.

Weather: Clear skies, warm-high 60's, slight wind

14:30 There are flowers in the long grass that I didn't notice at first:

 - The petals are white with purple veins,.....

15:00 As I sat quietly listening to the birds, a small green snake appeared + crawled over my foot!

15:30 Reflection: Wow I never thought there would be so much to see in one spot.....

Here is a specific example of how to use Grinnell style for your Field Journal Exercises; this example is much shorter and provides much less detailed information than your journals hopefully will.

The Core Routines of a Naturalist –modified from *Coyote’s Guide to Connecting with Nature*, by Jon Young, Ellen Haas, Evan McGown

☑ **Befriend one place.** Find a “sit spot” in the natural world that you visit all the time and get to know it as you would your best friend. Let this be a place where you sit still, alone and quiet and attentive to the world of nature around you.

☑ **Share your stories with your community.** After spending time in nature, tell your story to others, or by writing or drawing in a journal. Sharing your stories recreates your experience in your “mind’s eye”. You may often remember more of your experience as you tell it. You will motivate others with your stories as well as be motivated by their stories. A tradition of story sharing will inspire you further along your naturalist path.

☑ **Use and expand all your senses as fully as you can.** Pay attention. Practice the sense meditation—powerfully use your imagination to envision that you have the eyes of an owl, the ears of the deer, the nose of a coyote, the hands of a raccoon. Quiet your thoughts and come to your senses.

☑ **Be a detective and track everything as a clue to a mystery to be solved.** Ask questions about everything, and push your questions until they yield answers. Like a good scientist, gather evidence, develop hypotheses, test them, refine them...

☑ **Wander through the landscape without time, destination or agenda.** Be in the present moment. Let curiosity lead you off the beaten path. It is there where you will make many new discoveries that expand your awareness.

☑ **Draw maps—orient yourself to the compass directions, and use your mind’s eye to perceive the landscape from a bird’s eye view.** Draw maps to locate features of your landscape.

☑ **Explore Field guides and other reference material.** Go home with questions and use resources to feed your curiosity. Treat field guides as elders, as they are the amalgamation of many great naturalists and their hard work. They are treasure chests of knowledge and experience.

☑ **Journal your experience.** Keep a regular record, in drawings and in words, of your experience outdoors. Keep sketches, maps, captions, stories that describe your landscape. Keep it up through all the seasons until it is a habit you can’t live without.

☑ **Listen to the birds.** Notice the vocal signals and body language of birds and other animals, including humans. Every time an animal (including us) moves in the forest, it is like dropping a pebble into the clear surface of a pond. Concentric rings of disturbance go out. It is often birds that react to these concentric rings. They often give us immediate feedback about the whereabouts of other animals as well as our own attitudes and body language.

☑ **Be thankful.** Find in yourself a grateful heart and express gratitude for any and all aspects of nature and life. Begin any interaction with your world with thanksgiving. See what happens.