Syllabus for BIOL 20 – California Natural History (hybrid)

Course Information

Semester & Year:	F2021
Course ID & Section #:	E2234
Course units:	4
Instructor's name:	Dr. Karen Reiss
Required meetings:	Hybrid course: online asynchronous lectures, F2F labs F 10-1:15

Instructor Contact Information

karen-reiss@redwoods.edu BUT it is best to *email through Canvas* for course-related queries…see more details in the *Communication Guidelines* section below.

Catalog Description

An introduction to the biotic communities of California and the identification, ecology and life history of the organisms living there. Coverage includes organismal structure and function, principles of ecology and evolution, techniques for studying organisms in the wild, and methods of recording field data. Students who are successful in this course are eligible for UC California Naturalist certification. NOTE: Field trips are required; the College does not provide transportation. UC and CSU transferability requires a grade.

Course Student Learning Outcomes

Lecture

1. Describe the defining cellular characteristics and life history patterns of prokaryotic and eukaryotic organisms commonly encountered in the field.
2. Hypothesize ecological and evolutionary mechanisms that are responsible for specific examples of organismal adaptation and lineage diversification.

Lab

1. Recognize the major biotic communities of California and analyze the biotic and abiotic factors responsible for the unique characteristics of each.
2. Name and classify plants, animals, fungi and macroalgae on sight and/or by using appropriate and available resources.
3. Maintain an organized field/ lab notebook that includes meaningful and accurate notes and data.

Prerequisites

NONE

Accessibility

College of the Redwoods is also committed to making reasonable accommodations for qualified students with disabilities. If you have a disability or believe you might benefit from disability-related services and accommodations, please contact me or Disability Services and Programs for Students (DSPS).

Required Course Materials

The California Naturalist Handbook, Nevers, et al.
California's Changing Landscapes, Barbour et al. (out-of-print, I will provide a PDF)
Trees and Shrubs of California, Stuart and Sawyer
Other readings posted on *Canvas*, the course Learning Management Site (LMS)

Additional Course Materials

You'll need a **bound journal** for field observations and journal writings. Your lecture notes need to go elsewhere. The best inexpensive choice is either an unlined or graph-lined black "Composition" notebook. The just-as-good but more elegant choice is a blank bound artist's sketchbook or Moleskine. You have an hour of required writing per week, and will also be keeping all your observations, illustrations, musings, etc. in it, so find a journal that you like, are comfortable carrying, and will enjoy using.
You should invest in some **waterproof ink pens** or use **pencil**. Your notebook will inevitably get wet at some point and traditional ink will run.

You *may* wish to invest in **binoculars** and/or a **hand lens** but speak to me before you purchase either.
You *may* wish to invest in an insulated **pad** to sit on or a portable **stool** since we will almost always be outside and one of the cardinal rules of doing natural history is *get comfortable*!
You *may* wish to invest in other field guides for the taxa of your choice. I will have a list of recommended options on *Canvas*.

Course Organization

Lectures

Lectures are online. They are intended to provide background information to help you understand and appreciate what you see out in the world. In the first third of the semester we'll cover earth history, California climate, geography, and geology, and basic principles of ecology and evolution. In the second third we'll discuss the major California habitat types and the environmental stresses that face the plants and animals that live there. In the third portion of the semester we'll cover the organisms themselves, their basic biology and some specific aspects of their natural history. Most reading assignments are noted on your schedule and are drawn from the texts listed above as well as the articles posted on *Canvas*.

Each week you will have two lectures, each with associated reading and an online *Discussion*. To avoid getting behind I recommend you dedicate some time M/T to the first lecture and associated readings, dedicate some time W/Th to the second lecture and associated readings, and then on F, take a little time to prepare for the days lab or field trip.

Labs and Field Trips

Our lab time is face-to-face, and outside. Vaccinations, masks, and social distancing are required; you will be required to clear the health screening via the CR app *each* time we meet. Most of our "labs" are actually field trips, but we will have a few, especially at the start of the semester, that will be on-campus (but outside!)

When on-campus we will meet outside the Science building at 10:00am. We will usually be learning skills that help us identify major plant and animal groups, in preparation for id'ing them in the field.

When on field trips we will meet at 10:30am at the field site. Detailed instructions and maps will be made available on *Canvas* each week. In the field we will be exploring a variety of local habitats and the creatures that live there. You need to provide your own transportation to field meeting sites. They are not all accessible by bus and COVID concerns complicate carpooling. Please talk to me if transportation to field trips is a concern. It's important that you are on time to these field trips because we will typically leave promptly, on foot, to explore. It's also important that you dress appropriately…*plan* on rain, wind, cold, and wet feet.

Bring your journal to every lab and every field trip, and also bring whatever other resources are indicated on the schedule. You will usually bring your trees and shrubs book, and you will always use items from *Canvas* in lab and sometimes in the field. Be sure to download and print these out ahead of time!

Readings

Lecture readings are from the two main textbooks (*The California Naturalist Handbook* and *California's Changing Landscapes*) and from articles or book chapters posted on Canvas. Keep a close eye on the schedule so you don't miss anything and don't get behind.

Discussions

There will be required Discussion posts for each lecture topic (incorporating content and concepts from both the lecture and the associated readings). These threaded Discussions will vary in topic and are not intended to be especially long or time consuming beyond the time already spent watching lectures and reading. You are required to post something original as well as respond in a meaningful way to your classmates' posts. The idea is to generate a *discussion*…go figure. These will have soft (=recommended) deadlines of T and Th at midnight, and a hard deadline of Friday at midnight. These Discussions are intended to get you actively thinking about lecture material.

Journals

You will be keeping a natural history journal for the duration of the semester. In this journal will go…

1) All notes, observations, illustrations, and musings related to labs.
2) A formatted entry for each class field trip.
3) One hour, minimum, of additional writing and/or drawing weekly.

At least one half-hour of the weekly writing needs to be observational (e.g., how a spider spins her web, how a group of deer move across a meadow they're foraging in, how different trees bend differently in the wind, etc.) while the other half hour can include random thoughts, poetry, responses to our readings or drawing. I will collect these journals regularly, or alternatively, I may have you post photos of your entries for an online upload. I want to help you get started with meaningful, accurate, and appropriate journaling. A properly formatted nature journal gets you looking at the world and listening to your own thoughts and creates a scientifically useful record for yourself and others in perpetuity.

Participatory Science Projects

As a class, we will be participating in a Participatory Science (aka Citizen Science) project. Participatory Science is the use of observations by laypeople around the world to help generate data that can be used by researchers. It has become an incredibly powerful resource for investigators, and a super fun hobby for lay people. We will be making observations for ongoing projects in the course of our class activities. Hopefully you will appreciate how even novice naturalists can facilitate scientific progress.

Volunteer Work

You are expected to participate in a single volunteer activity, for a minimum of 4 hours, for a local environmental organization, e.g., Friends of the Arcata Marsh, Friends of the Dunes, Humboldt Baykeeper, Humboldt Botanical Gardens, California Native Plant Society, Northcoast Regional Land Trust, Redwood Region Audubon Society, PacOut Green Team, Trinidad Coastal Land Trust, Sequoia Park Zoo, Humboldt Fish Action Council, Humboldt Surfrider, Northcoast Environmental Center, Humboldt Trail Stewards, California State Parks, HSU Natural History Museum, HSU Natural Resources Club, and more! The actual organization and specific activity that you volunteer for is up to you. This activity will help you appreciate the importance of community members in environmental resource management and environmental education.

Individual Capstone Project

Each of you will carry out an individual project that will take absolutely no more than 8 hours of time over the course of the semester. It is up to you to define this project but it must include a deliverable…a collection of specimens, an inventory of plants found in a particular place, a set of illustrations, signage identifying trees on campus, a poster showing the results of an experiment, etc. You will give a short presentation on your project on the last day of class. I will show you some past projects, help you brainstorm ideas, and shepherd you through the early stages…just let your curiosity flow and you will arrive naturally at a good project for you. When completed, you will have become the expert on something.

Quizzes and Exams

For the first 2/3 of the semester you will have regular small online lab quizzes. Typically, each quiz covers the most recent skills you've learned (journal entry format, fern identification, etc.) and the most recent field trips.

Twice you will have online midterm exams that cover primarily lecture material. You will receive a study guide one week prior to each exam. If you've been taking good lecture notes, are caught up on your reading, and participate earnestly in Discussions, there should be no surprises on the review sheets. The exams are online, unproctored, open book, and *timed*. So yes, you can look things up, but you won't have enough time to do so for every question, and if you don't deeply *understand* the material looking up facts won't help you. You should study hard for these.

Your final exam will cover *all* lecture and lab material. Some of this material will have been on previous quizzes and exams, but some will be new material. You will receive a study guide for the final.

Evaluation & Grading

Lecture Exams	2 X 100	200
Lab Quizzes	5 x 20	100
Discussions	15 x 10	150
Volunteering	25	25
Participatory Science	25	25
Capstone project	100	100
Final Exam	100 lecture and 100 lab	200
Journals	150 completeness and 50 quality	200
		1000 total points possible

If you receive 90-100% of total points you will receive some flavor of A; 80-89% earns a B; 70-79% earns a C; 60-69% earns a D; < 60% results in a grade of F. There is no curving or otherwise creative grading.

Exam Make-Up Policy

There will typically be a multi-day window during which quizzes and exams are available. It is up to you to find a good time within this window that doesn't conflict with other aspects of your life and you can work in an uninterrupted fashion. Once you open a quiz or exam it must be completed within the specified time frame...this time frame is usually quite generous for quizzes but more stringent for exams.

If you can't find a time within the allotted window, or if an unexpected situation arises, y***ou must contact me BEFORE the exam begins AND have a serious and verifiable excuse*** to qualify for a makeup exam:

Contact me by leaving a message on email or phone voicemail.

Serious excuses include emergency room visits, quarantine due to contagious infectious disease, and deaths in the family.

Verifiable means you have a doctor's note, a police report, or some other form of evidence.

University of California *California Naturalist* Certification

UC *California Naturalist* Program Goals

- To promote environmental literacy and stewardship of California's natural resources
- To increase participation in resource conservation and participatory science projects throughout the state
- To develop a core constituency of committed and educated citizens motivated and trained to participate in resource conservation, preservation, and restoration efforts
- To provide participants with the knowledge, skills, and confidence they need to educate others and participate in many aspects of resource management, such as public education, resource planning and public decision-making
- To provide the communication experience and critical thinking skills necessary to grow a citizen base that supports environmental protection and sustainable growth in California

If you pass this class with a C or better, completing all requirements, you are eligible to become a UC Certified *California Naturalist*. See http://calnat.ucanr.edu/ for more info. This certification indicates not only that you possess the scientific background and skill set to be a competent naturalist but provides opportunities for personal and professional development and continued scientific activity. At the very least, it is a line on your resume that makes you a preferred candidate for positions -- volunteer, paid, or educational -- in environmental science and environmental education. Certification costs about $100 depending on whether you are a full or part-time student.

Academic Dishonesty

Truth matters! Cheating sucks! In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. Academic dishonesty of any kind will result in an instant F on the quiz/exam/assignment and a memo to the Dean of Math and Science and to the Chief Student Services

Officer that will become part of your permanent record. Disciplinary action will be taken if they already have your name on "the list" of past offenders. In other words, you get one warning. The Student Code of Conduct (AP 5500) is worth reading.

A couple of common pitfalls:

- Many students don't realize that complicity…allowing or encouraging cheating…is as bad as being the one doing the cheating.
- Many students don't understand that using a Wikipedia answer…even if you cite Wikipedia…is plagiarism.
- Many students don't realize that we professors KNOW that companies like Chegg will allow you to pay for access to answers to questions in popular textbooks like your lab manual. Not only is this cheating, but their answers typically suck!

It's far better to earn an F with integrity than pass the class through cheating!

Communication Guidelines

We need to communicate, regularly, effectively, and meaningfully…if we are to be successful at teaching and learning.

If you have a question:

- **You can email me any time using the *Message* tool on Canvas**. This is preferable to using my campus email (karen-reiss@redwoods.edu) because it keeps my class related emails in one place, and your comments/concerns are less likely to get lost in the tsunami of emails I receive on a daily basis. In either case, an email is ideal for questions that are personal and/or unique to you. I will usually respond that day but I go to bed early so if you email me after 9 I probably won't see it till morning. During the week, expect a quick response. On the weekend, it might take a day.

- **You can post your question on the *Questions for Karen* Discussion thread on Canvas**. This is ideal for questions that may be relevant to other members of the class. I usually check these each weekday morning, and once on weekends, but much more frequently if there's an assignment due or a test coming up. Do know that if I think your question will actually benefit the whole class I might repost it (without your name) in the *Discussion* thread.

- **You can write them down and save them for labs or Zoom office hours.** This is ideal for questions that may require some discussion to resolve.

When you communicate:

- **Please put the specific topic in the subject line or top of the post in the Discussion**, set off by a separate "Heading" font, e.g., "Question about lizard thermoregulation", or "Help! Freaking out about exam."

- **Please use appropriate salutations, closings, and grammar** in your messages, e.g., Dr. Reiss, My name is Sam and I'm in your Zoology class. I'm worried because I have dyslexia and reading the textbook is really hard. Do you have any suggestions for how I should study? Thanks, Sam". In other words, you're not texting.

- **Please be considerate of each other's questions and comments.** You will be required to participate in threaded *Discussions* with one another and I expect your comments to be thoughtful, meaningful, and most importantly, respectful.

Necessary Skills

Your success at online learning depends on your facility with some basic computer-age skills. It's important to let me know sooner rather than later if any of these hold you up...talk to me and I can help before you get behind in actual coursework.

- Be able to reliably receive and respond in a timely fashion to messages sent to your CR email account.
- Be able to navigate the course in Canvas, our online learning management system.
- Be able to download and upload files in Canvas.
- Be able to use a phone or digital camera to take photos and videos that will be uploaded to Canvas.
- Be able to access internet resources including online databases and fun stuff like YouTube.
- Be able to use a word processing program (such as Microsoft Word or Google Docs).
- Be able to use a graphing program (such as Microsoft Excel or Google Sheets).

Technology Requirements

Doing all of the above requires some equipment.

Hardware

Computer - You should plan on doing the majority of your work (especially exams and assignments) from a reasonably recent model notebook or desktop computer (Mac or PC). I don't recommend that you plan on participating in this class solely from a portable device (phone or tablet).

Portable Devices - You can use recent model portable devices (such as Android or iOS phones & tablets) for some activities, and we will be learning about some cool apps that you may want to download. Minimally, be sure to acquire the free Canvas, Canvas by Instructure, available in iTunes or the Google Play Store.

Camera - You may need to be able to take photographs and record videos for this class, sometimes of your assignments, sometimes of the outside world, and sometimes of yourself doing something. A digital camera or phone are ideal, especially when you are outside, but a computer webcam will also be handy.

Connection and Software

High-speed internet - You'll need high-speed internet service from cable, DSL, or satellite providers in order to access video lectures that are integral to this course, and your internet needs to be reliable. This is Humboldt County and outages do happen, so it is best not to wait until the last minute to submit assignments. It is your responsibility to meet the class deadlines.

Browsers - You will need to use the most recent version of Mozilla, Firefox, and/or Chrome to best access the course and course activities. Internet Explorer and Canvas don't get along.

Word Processing and Graphing Software - You need Microsoft Word or a similar word processing program for writing assignments, Microsoft Excel or a similar spreadsheet program for graphing assignments, and Acrobat Reader or a similar program to allow you to read and download pdf files. All students at CR have access to

Office 365 (Word, PowerPoint, Excel, and OneNote) free with a valid @mycr.redwoods.edu email account. Go to *Office 365 for Education* to get started.

Support

We have a great support team, but before you call them, check *Online Course Support* and the resources therein. If your issue can't be resolved, scroll down for the phone numbers to talk to real people. If you need help getting your password to work (needed for email, Canvas, and WebAdvisor) call 707-476-4160 between 8 and 4, M-F.