

ESCI 1 Lab :

Biodiversity of California

Fridays 10:30am – 1:30 KC120

Get-To-know-you bingo game

Introduction to Lab

introduce details of class
syllabus and field trips

ESA & SRC tour

Group activity – SRC research

Check out



Things to do before we start

- Check in
- Pick up field trip liability forms located on the side counter
- Fill out as much as you can anything else leave blank and we will fill out together.
- Field trip dates:

Santa Cruz and Santa Clara Counties

4/27, 5/4, 5/11, 5/18, 5/25, 6/1, 6/8, 6/15

Getting-to-know-you Bingo Game

1st 3 bingo winners get a prize !!

Welcome to ESCI 1!

Environmental Biology



- ❖ Welcome!
- ❖ Lab Instructor: Lynn Thorensen
- ❖ Biodiversity Lab - John Muir Institute of Natural Sciences (KC120) & Outdoor ESA Lab
- ❖ Cheeseman Environmental Study Area (ESA) Coordinator - Diana Martinez
- ❖ Cheeseman ESA - an unique place!

Join us on a journey to explore. . .

What is **environmental biology** and why is it important to you and the future of this planet?

Why is your understanding **California's biodiversity** important?

Based on what you've learned in this class, what are some of the ways you can make a difference?

Join us on a journey to explore. . .



Introduction to **diversity of life** (biodiversity) on earth

California Plant Communities and their inhabitants

- The natural components that dictate what grows where and why
- Characteristics that define those communities what animals live there.
- Introduction to complex **systems & processes** (ecological integrity) that sustain all life on earth!
- Human impacts on our natural world

The Great Outdoors: San Francisco Bay Area

Focus on our parks in the local vicinity

We are outside much of the time!

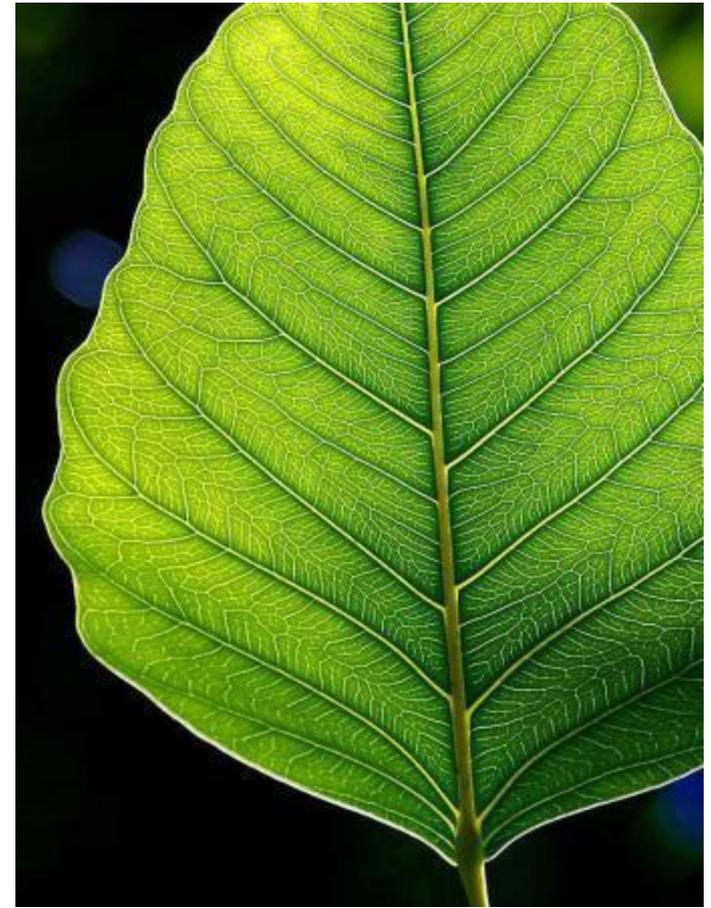
Field trips integral part of this class.

Before each lab :

ESCI 1 class website:

<http://deanza.edu/faculty/thorensenlynn/esci1-lab.html>

- **Check for changes and/or announcements**
- **visit on a regular basis**
- **download**
- **print directions and lab activity sheets**
 - Lecture & Lab Schedule
 - Worksheets for SOME lab activities
 - Directions to field trip sites



ESCI 1 Lab Journal

Lab Entries includes:

- ✓ SRC activities
- ✓ Maps and concept notes
- ✓ Field trip worksheets
- ✓ Wildlife observations & drawings.
- ✓ Discussion write ups

Species list- you will be keeping a list of plant and animal species you observe outdoors.



Environmental Study Area and field trip Protocol

Cheeseman Environmental Study Area (ESA) Stewardship Ethics:

ESA (outdoor) fragile environment

- ✓ No smoking, **garbage**, pack it in pack it out etc.
- ✓ Cell phones OFF!! No exceptions!
- ✓ **Stay on the trails**
- ❖ Courtesy to fellow students & wildlife
- ❖ Trail etiquette - leave no trace! Take only memories

Indoor Lab

- ✓ Clean up all lab materials!
- ✓ Put chairs back where you found them
- ✓ Please **put all backpacks** underneath desks!
- ❖ Check in at beginning of every class and check out at end of every class.

Field Trips:

All field trips will be local, within 30 min drive... EXCEPT lab #3

Arrive on time and be prepared-

Dress appropriately—layers, sturdy shoes

Bring water, journal/pens, student packets

Directions— orientation is an important component of this class, being aware of where you are and where you are going.

Carpooling is important—
saves gas & carbon emissions

BE ON TIME !!!



Journal Format

Label your journal entry each lab session!

Format for lab journal entries:

Lab #1

Location: Henry Cowell State Park

Today's Date/Time: 4/27/18 10:30am

Weather Data: 58 degrees F windy clear

Purchase a portable notebook that you can easily keep handouts in (with sleeves etc.) and with blank sheets of paper for lecture notes.

You will be handing them in at the end of the quarter – worth 100 points



Weekly Lab Schedule

To be successful in ESCI1 lab, you must:

Arrive to lab 5 minutes early! ESA lab and/or KC120 will be open 15 minutes before class starts!

Label your journal for the day's work

Write down **lab tasks** listed on the whiteboard in your journal

Write down all instructions for lab

Complete the Activities each lab

ATTEND ALL OF THE FIELD TRIPS!

If you get done early, spend the remainder of time learning your birds or working on your journal!

#1 complaint of students “not enough time for journals” . . .

Final Presentation Group Project

- You will be working in groups to create a presentation that will be presented to the class during the 12th week as your final in this lab.
- Worth 75 points
- Subjects – an environmental issue that has been discussed and relevant to this lab .
- More on the details of this project will be presented later in the quarter.



Subjects we will be covering

- Biodiversity of California
 - Local plant communities and species identification
 - Habitat restoration
 - Native American uses of the land
 - Watersheds: pollution and monitoring
 - Human impacts on the environment
 - Soil health
 - carbon sequestration and climate change.
 - Wildlife corridors
- Just to name a few



7 environmental principles

1. nature knows best-

adaptation and speciation-- genius by design

Humans manipulating the natural systems rarely are successful

2. all forms of life are important

niche- each organism plays an important role in nature -

Humans tend to focus on aspects of nature that are important for our short term requirements

3. everything is connected to everything else

ecosystem - made up of all biotic and abiotic elements in a particular

Humans tend to manage components of system not the system as a whole

4. Everything changes

to remain static causes disruption in the natural processes

humans try to cause changes in the environment to mold it to their needs and adaptation

5. Everything must go somewhere

all elements (carbon etc.) of life continue to exist whether it is in a different form (gas, solid etc.)

it remains in the system and never disappears

Pollution from various human sources has contaminated our water and air

6. Our Earth is finite

limited resources and carrying capacity

Humans up to the last 50 years have viewed natural resources as unlimited

7. Nature is beautiful and we are the stewards

resource management and restoration

Humans have placed themselves in a stewardship position.

ESA Lab

- 1 ½ acres
- Over 400 species of native plants
- 12 native plant communities
- Visited by several thousand students and community members every year
- Free tours for local schools with skilled docents

CHEESEMAN ENVIRONMENTAL STUDY AREA (ESA)

CALIFORNIA'S NATIVE PLANT
COMMUNITIES



DE ANZA COMMUNITY COLLEGE
BIOLOGICAL HEALTH AND
ENVIRONMENTAL SCIENCES

21250 STEVENS CREEK BOULEVARD
CUPERTINO, CA 95014

ESA Plant Communities Tour

- We will be touring the 12 plant communities represented in the lab
- take notes— 2 or more facts per community--- draw one plant per community.
- We will be meeting in the KC120 lab after the tour.

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SRC Group Activity

- 1. BREAK INTO GROUPS OF 4 OR 5.**
- 2. PICK UP AN ACTIVITY WORKSHEET**
- 3. FOLLOW DIRECTIONS USING THE CALIFORNIA ATLAS (SRC), INTERNET AND WALL MAPS**
- 4. MEET BACK IN KC120 TO CHECK OUT AND HAND IN YOUR FIELD TRIP FORMS BEFORE TAKING OFF.**
- 5. WE WILL REVIEW THESE CONCEPTS NEXT LAB.**