

San José State University  
Environmental Studies Department, College of Social Sciences  
**ENVS 173, Forest Ecology and Conservation, Spring 2025**

**Instructor:** Dr. Will Russell

**Office Location:** Washington Square Hall 115E

**Office Hours:** By appointment

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**Class Days/Time:** This class will meet every Friday at a field location from 10:30 am until approximately 4:00 pm  
*1<sup>st</sup> class 8/25 will meet in DMH 353*

**Prerequisites:** ENVS 01 and ENVS 10, or upper division standing

***“Any fool can destroy trees. They cannot defend themselves or run away.” – John Muir***

### **Catalog Description**

A field-based course designed to provide students with the conceptual framework and practical tools necessary for understanding the ecology and conservation of local forest ecosystems. Topics covered include forest restoration, succession, wildlife, diversity, natural and human disturbance, and the history of forest management.

Prerequisite: ENVS 01, ENVS 10, or upper division standing.

Misc/Lab: Lecture 3 hours/lecture 2 hour/lab.

### **Course Overview**

This course is designed to provide students with the conceptual framework and practical tools that are necessary for understanding the ecology and management of forests. Through this course, students will gain an understanding of basic forest ecology; disturbance and succession; forest community interaction; natives, endemics; invasive exotic species; and local variation of species and community types. In addition, the course will focus on historical and current forest management practices; impacts of timber management on forest ecosystems; and forest restoration. Field observation, and hands-on field techniques will be emphasized.



## Required Materials

### Textbooks and other Materials

- Forest Ecosystems. 2008. D. A. Perry. John Hopkins University Press. Baltimore and London. *Selections available on Canvas.*
- Coast redwood: a Natural and Cultural History. 2001. M. G. Barbour. Cachuma Press. *Selections available on Canvas.*
- Plants of the California Coast Redwood Region. 1988. By: K. Lyons and M. B. Cooney-Lazaneo. Looking Glass Press. *Recommended field guide.*
- Various journal articles available on Canvas.
- **Field Notebook** Full sized spiral or hardbound notebook with removable pages for: field activities and quizzes, daily plant list, drawings and descriptions of all plants (and other organisms) identified in the field, notes from all field lectures (including those by guest speakers).

### Field Trips

All field trips will take place on Fridays, with all students meeting on site at 10:30 am continuing well into the afternoon, and may require moderate to strenuous hiking to reach field sites.

### Field Trip Gear

In order to be productive and comfortable it is important to be properly prepared for field trips. On all field trips you will need to bring a notebook and pen, a bag lunch, water, snacks, comfortable hiking clothes, and supportive hiking shoes. Check weather reports as well, and bring a rain jacket and/or umbrella if it might rain.

### Transportation

Most of our field trips will take place in the Santa Cruz Mountains 60-90 minutes from San Jose State University. Transportation to field sites will be the students' responsibility. Please be aware that there are parking fees required (\$10-15 per-car) at some of the sites.

### Wilderness Preparation and Etiquette

#### To-do List

1. Always be on time – we will be leaving for our hikes promptly, and will not be waiting for stragglers.
2. Wear comfortable walking shoes and weather appropriate layered clothing.
3. Bring plenty of water and snacks.
4. Bring a field notebook, pens, plant guides, camera, etc.
5. Carry any medications or first-aid supplies that you might need on the trail (EpiPen, band-aids for blisters, etc.).
6. Be respectful of other park visitors at all times.
7. Be prepared to help/support your classmates when necessary.
8. Let the professor know if you need any physical accommodations regarding the field trips.
9. Have fun, hug a tree, kiss a slug, learn a lot, etc.

### Do-not-do List

1. Do not pee in the creek!
2. Do not drink water from the creek (see #1)!
3. Do not eat any berries, mushrooms, or other forest organisms without explicit instructions from the instructor!
4. Do not approach wildlife (deer, skunks, yellow jackets, rattlesnakes, etc.)!
5. Do not cut trail!
6. Do not play amplified music in the wilderness.
7. Do not make personal phone calls during field trips.
8. Do not harass people in your carpool!
9. Do not bring guests (family members, partners, fiends, etc.) to class field trips.
10. Do not experiment with mind-altering substances during the field trips. Save the party for later – we need to keep our wits about us!

## **Course Requirements and Assignments**

### ***Weekly Quiz***

There will be a short online quiz on each week's readings on Canvas, to be completed before each class meeting.

### ***Home Lab Exercises***

Occasional Home lab exercises will be required, with directions and a discussion on Canvas. Complete and upload your assignment by the end of the week, and engage in dialog with your classmates through the discussion.

### ***Field Activity***

Each class meeting in the field will include a formal activity, quiz on the weeks readings, and/or plant identification quiz. Results of the field activity should be turned in by the end of the day.

### ***Field Presentation: Species Description and Fact Sheet***

Students will **work in groups of 2-3** to conduct research on an **organism of their choice** that lives in the Santa Cruz mountains, and present an oral 10-15 summary in the field. The summary will include the ecology, life history, evolutionary history, habitat requirements, and distribution of the species. **Presenters may use minimal written notes while presenting, but may not use an electronic device.**

A 1-2 page (single spaced 12 point type) synopsis on the organism will be uploaded to Canvas, and will include a title with the species' name (common and scientific), and at least five academic references in APA style.

### ***Field Exam:***

A final field exam will be given **in the field** focused on the identification of plant species, but may include other site-specific material as well.

**Field Notebook:**

Each student will keep a field notebook to be turned in on the final day of class. The notebook will be neatly handwritten (if I can't read it, I can't grade it). The notebook must be hardbound or spiral bound, and will include the following:

- Notes from in-class, and field lectures
- Drawings and descriptions of all plants (and other organisms) identified in the field.
- Responses to all field activities

**Class Participation:**

Attendance on all field trips is an essential part of the class. Please be respectful of your classmates by listening quietly when the instructor, guest speakers, or student presenters are speaking. We are a big group, often on a narrow trail, it is very difficult for students to hear when extraneous conversations are competing. Please do not come to class if you have a fever or feel like you might be getting sick!

**Grading**

Your grade in this course will be based on field assignments, online quizzes, group presentations, and the final exams. See chart below.

<i>Assignment</i>	<i>Points</i>
Field Assignments and Home Lab Exercises	20
Online Quizzes	20
Field Presentation	20
Field Notebook	10
Final Exam	30

<i>Grade Percentage Breakdown</i>	
97% and above	A+
90% - 96%	A
87% - 89%	B+
80% - 86%	B
77% - 79%	C+
70% - 79%	C
60% - 69%	D
0% - 59%	F

**University Policies**

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo) at <http://www.sjsu.edu/gup/syllabusinfo>

## Tentative Course Schedule – ENVS 173, Spring 2025

**-Check for updates before heading to field sites!**

Date	Topic	Field Trips/Home Labs	Readings	Assignments
1/24	Course Introductions Class Logistics	<b>On campus lecture and planning meeting (WSQ 111)</b>		
1/31	Forest Ecology and Community Types	<b>Field Trip:</b> - Henry Cowell State Park. 101 N Big Trees Park Rd, Felton, CA 95018	Perry Ch-5 Evarts and Popper Ch-1	Quiz on Canvas Field Activity
2/7	Historic Management of Redwood Forests	<b>Field Trip:</b> Fall Creek Unit. 1400 Felton Empire Rd, Felton, CA 95018	Evarts and Popper Ch-5	Quiz on Canvas Field Activity
2/14	Redwood Forest Ecology	<b>Field Trip:</b> Bear Creek Redwoods Open Space Preserve, Los Gatos, CA 95033	Evarts and Popper Ch 2 & 3	Quiz on Canvas Field Activity <i>Field presentations</i>
2/21	Disturbance and Succession	<b>Field Trip:</b> Bonny Doon Ecological Reserve. 975 Martin Road, Santa Cruz, CA 95060	Perry Ch 7 & 8	Quiz on Canvas Field Activity <i>Field presentations</i>
2/28	Forest restoration and conservation	<b>Field Trip:</b> Pogonip 688 Spring St, Santa Cruz, CA 95060	Evarts and Popper Ch-7 Russell et al. 2014	Quiz on Canvas Field Activity <i>Field presentations</i>
3/7	Community interactions	<b>Field Trip:</b> Castle Rock State Park. 5451 CA-35, Los Gatos, CA 95033	Perry Ch-11	Quiz on Canvas Field Activity <i>Field presentations</i>
3/14	Fire in the redwoods	<b>Field Trip:</b> Big Basin State Park. 21600 Big Basin Way, Boulder Creek CA, 95006.	Mahdizadeh and Russell (2021) Cowman and Russell (2021) Jones and Russell (2015) Lazzeri-Aerts and Russell (2014)	Quiz on Canvas Field Activity <i>Field presentations</i>
3/21	Wildlife	<b>Field Trip:</b> Mt. Madonna County Park. Azalea Picnic Area 7850 Pole Line Rd, Watsonville, CA 95076	Evarts and Popper Ch-4	Quiz on Canvas Field Activity <i>Field presentations</i>
3/28	Open Spaces	TBD		Home Lab Assignment 1
<b>Spring Recess</b>				
4/11	Indigenous Forest Practices	<b>Field Trip:</b> Forest of Nisene Marks State Park. 100 Aptos Creek Rd, Aptos, CA 95003.	Thornburgh et al. (2000)	Quiz on Canvas Field Activity <i>Field presentations</i>
4/18	Harvest & Utilization	<b>Field Trip:</b> Byrne-Milliron Forest 809 Browns Valley Rd, Corralitos, CA 95076	3 Videos- on Canvas Cuthrell 2021	Quiz on Canvas Field Activity <i>Field presentations</i>
4/25		<b>Field Trip:</b> Sand Hills Henry Cowell: 101 North Big Trees Park Road, Felton, California 95018		Field Activity <i>Field presentations</i>
5/2	Field Exam Review	<b>Field Trip:</b> Fall Creek: 1400 Felton Empire Rd, Felton, CA 95018		
5/9	<i>Field Final Exam</i>	<b>Field Trip:</b> Henry Cowell State Park. 101 N Big Trees Park Rd, Felton, CA 95018		<i>Final Field Exam</i>

