San José State University
Environmental Studies Department, College of Social Sciences
**ENVS 173, Forest Ecology and Conservation, Spring 2017**

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| **Instructor:** | Dr. Will Russell |
| **Office Location:** | Washington Square Hall 115E |
| **Office Hours:** | Wednesdays 11:00-1:30 |
| **Email:** | will.russell@sjsu.edu |
| **Class Days/Time:** | Friday 10:00-????? |
| **Classroom:** | Clark 205 |
| **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 that provides students with a conceptual framework and practical tools necessary for understanding sustainable forest management. Students explore issues such as forest restoration, community based forestry, forest diversity, agroforestry, and techniques for monitoring forest health.

## Student Learning Objectives

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 the historical development of our current public policies on forest management, and contrast those policies to those developed by other cultures past and present. Students will explore issues such as forest restoration, community based forestry, forest diversity, effects of burning and logging on forests, and techniques for monitoring forest health. They will investigate the use of forest resources by traditional cultures, the spiritual relationship between human beings and forests, and the role of forests in art and literature. Hands-on field techniques will be emphasized.

## Required Materials

***Textbooks and other Materials***

- Plants of the California Coast Redwood Region. 1988. By: K. Lyons and M. B. Cooney-Lazaneo. Looking Glass Press. **(*Availible at the Henry Cowell State Park Nature Store*)**
- Coast Redwood: A Natural and Cultural History. J. Evarts and M. Pooper. Cachuma Press. (*e-book on Canvas*)
- From Tree to shining Tree (**podcast**) ***http://www.radiolab.org/story/from-tree-to-shining-tree/***
- ***Additional Required Readings available on Canvas***

## *Field Trips*

This course will be taught primarily in the field. All field trips will take place on Friday's beginning at 10:30 and will continue well into the afternoon, and will often include moderate to strenuous hikes.

***Transportation***

Most of our field sites will be in the Santa Cruz Mountains 60-90 minutes from San Jose State. Transportation to field sites will be your responsibility. Carpools are highly recommended, not only because they are more environmentally friendly, but also because there is a $10-15 per-car parking fee at some of the parks.

***Field Notebook*** Spiral or hardbound notebook 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).

***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 rain gear if necessary!
4. Bring plenty of water and snacks.
5. Bring your field notebook, pens, plant guides, camera, etc.
6. Carry any medications or first-aid supplies that you might need on the trail (epipen, band-aids for blisters, etc.).
7. Be respectful of other park visitors at all times.
8. Be prepared to help/support your classmates when necessary.
9. Have fun, swim in a creek, hug a tree, kiss a slug, 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 experiment with mind-altering substances during the field trips. Save the party for later, people – we need to keep our wits about us!

## Course Requirements and Assignments

***Weekly Quiz***

Completion of a short weekly online quiz (on Canvas) will be required before each class meeting. The quiz will include material from readings, lectures, class discussions, and any other class materials.

***Field Activity***

Each class meeting in the field will include a formal activity or plant quiz. Results of the field activity should be turned in at the end of the day, or recorded in your field notebook. Ask the course instructor if you are unclear about the day's assignment.

***Group Project***

Research an instructor-approved ecological topic that has not been discussed in-depth during class. Presentations should be site-specific, or species specific. Groups can include a maximum of **3-4 students**. Examples of potential topics include: 1) The life history and ecology of a particular species or class of organisms (i.e. lichens, micorrhizzal fungi, banana slugs, sword fern, etc.); 1) Forest processes such as succession, disturbance, or community interactions. Plan on approximately **one hour** of presentation time. The presentation should be hands-on and experiential in nature – in other words, show us, don't just tell us! The presentation can take place in one of the parks already visited, or at another instructor-approved location. All members of the group must participate fully, and will be graded separately.

***Final Exam:***

A final exam will be given **in the field** on the materials presented in the lectures, readings, and field labs. Half of the exam will be focused on the identification of plant species.

***Class Participation:***
Attendance on all field trips is essential. 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.

## Grading

Your grade in this course will be based on written and oral reports, exams, field trip reports, field lab activities, and participation. See chart below.

| *Assignment* | *Points* |
|---|---|
| Field Assignments | 20 |
| Online Quizzes | 20 |
| Group Presentation | 30 |
| Final Exam | 30 |

| *Grade Percentage Breakdown* | |
|---|---|
| 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

**Academic integrity**

Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The University's Academic Integrity policy S07-2, located at http://www.sjsu.edu/senate/S07-2.htm, requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sjsu.edu/studentconduct/.

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person's ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU's Academic Integrity Policy S07-2 requires approval of instructors.

**Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf

requires that students with disabilities requesting accommodations must register with the Disability Resource Center (DRC) at http://www.drc.sjsu.edu/ to establish a record of their disability.

**<u>Tentative</u> Course Schedule – ENVS 173, Spring 2017**
**Subject to revision due to weather, etc.**
**Check for updates before heading to field sites!**

| Date | Content | Reading | Activities/ Assignments |
|---|---|---|---|
| 1/27 | ***On Campus***<br>• Class introductions.<br>• Course logistics – field time, transportation, field gear and tools.<br>• *Lecture* – A Brief Introduction to Forest Ecology | | |
| 2/3 | ***Field Day***<br><u>Location</u>: **Henry Cowell State Park** 101 North Big Trees Park Road, Felton, California, 95018<br><u>Topics</u>: Ecotone - Contrasting forest characteristics. | Evarts and Popper (Ch 1 – Origin and Distribution of the Coast Redwood Forest) | *Quiz 1* |
| 2/10 | ***Field Day***<br><u>Location</u>: **Fall Creek Unit**. 1400 Felton Empire Rd, Felton, CA 95018<br><u>Topics</u>: Historic management and resource use. Ferns, ferns, ferns!!! | Evarts and Popper (Ch 2 – Life of a Coast Redwood)<br>*Podcast: From Tree to Shining Tree* | *Quiz 2* |
| 2/17 | ***Field Day***<br><u>Location</u>: **Mt. Madonna County Park.** 7850 Pole Line Rd, Watsonville, CA 95076<br><u>Guest Speaker</u>: Rachel lazzeri-Aerts<br><u>Topics</u>: Fire in the Redwoods | Hanson (2010)<br>Lazzeri-Aerts and Russell (2014) | *Quiz 3* |
| 2/24 | ***Field Day***<br><u>Location</u>: **Forest of Nisene Marks State Park**. 100 Aptos Creek Rd, Aptos, CA 95003.<br><u>Topics</u>: Old-growth, edge effects, and the mystery of the Twisted Forest. | Evarts and Popper (Ch 3 - Ecology of the Coast Redwood) | *Quiz 4* |

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| 3/3 | ***Field Day***<br>Location: **Bonny Dune Ecological Reserve**. 975 Martin Road, Santa Cruz, CA 95060<br>Topics: Fire ecology, resistance and resilience in post fire recovery | Jones and Russell (2015) | *Quiz 5* |

| Date | Content | Reading | Activities/ Assignments |
|---|---|---|---|
| 3/10 | ***Field Day***<br>Location: **Byrne-Milliron Forest** 809 Browns Valley Rd, Corralitos, CA 95076<br>Topics: Managed Forests | Petersen and Russell 2017 | *Quiz 6* |
| 3/17 | ***Field Day***<br>Location: **Fall Creek Unit**. 1400 Felton Empire Rd, Felton, CA 95018<br>Topics: Field Data Collection | Evarts and Popper (Ch 4 – Wildlife) | *Quiz 7*<br>Group Project Topics Due |
| 3/24 | ***Field Day***<br>Location: **Big Basin State Park.** Berry Creek Falls Trail. 21600 Big Basin Way, Boulder Creek CA, 95006<br>Topics: Forest Communities. (knobcone pine). | Evarts and Popper (Ch 5 – Harvest & Utilization) | *Quiz 8* |
| 3/31 | ***Spring Break---No Class*** | | |
| 4/7 | *Field Day*<br>Location: **Portola Redwoods State Park**. 9000 Portola State Park Rd, La Honda, CA 94020<br>Topics: Remote Parks, Salmonids? | Evarts and Popper (Ch 6 - History) | *Quiz 9* |
| 4/14 | ***Field Day***<br>Location**: Fall Creek Unit**. 1400 Felton Empire Rd, Felton, CA 95018<br>Topics: Field Data Collection | Evarts and Popper (Ch 7 – Conservation & Management) | *Quiz 10* |
| 4/21 | ***Field Day***<br>Topic: Group Presentations<br>Location: TBA | | |
| 4/28 | ***Field Day***<br>Topic: Group Presentations<br>Location: TBA | | |
| 5/5 | ***Field Day***<br>Topic: Group Presentations<br>Location: TBA | | Group Project Due |
| 5/12 | ***Field Day***<br>Location: **Henry Cowell State Park**<br>Topic: Final exam | | *Final Exam* |