

Course Syllabus

Ecology and Natural History of Jasper Ridge Biological Preserve
BIO/EARTHSYS 105
Spring 2021 In-Person and Outdoor
Thursday 1:30 PM** to 5:00 PM (PST)
Jasper Ridge Biological Preserve,
4001 Sand Hill Road, Woodside CA 94062

CONTACT INFORMATION

Instructor: Rodolfo Dirzo
Email: rdirzo@stanford.edu
Office: Bass Biology 210
Office Hours: By appointment

Instructor: Jorge Ramos
Email: jorge.ramos@stanford.edu
Office: Jasper Ridge Biological Preserve
Office Hours: By appointment

We are happy to meet with you to discuss the material being covered in class, questions or concerns you might have, and other related issues.

** Students will be provided with Stanford-approved transportation (bus from Stanford's Marguerite Service) to ride from main campus (departing at 1:15 PM) to JRBP, and vice versa (departing from JRBP at 5 PM).

TEACHING ASSISTANT CONTACT INFORMATION

TBA

TAs will set a time to hold office hours that work for everyone and via appointment.

COURSE DESCRIPTION

Ecology and Natural History of Jasper Ridge Biological Preserve is an upper-division course, aims to help student learn ecology and natural history using a “living laboratory”, the Jasper Ridge Preserve. The course’s central goal is that, as a community of learning, we examine –via introductory discussions, followed by hands-on experiences in the field– the *scientific basis* of: ecological research, archaeology, edaphology, geology, hydrology, species interactions, land management, and multidisciplinary environmental education. The 10 sessions that compose the academic program are led by the instructors, faculty (world-experts on the themes of each session), and JRBP staff. In addition, this class trains students to become JRBP Docents that therefore join the Jasper Ridge education affiliates community.

After completing this course and as new affiliates of Jasper Ridge, participants will be able to lead research-focused educational tours, assist with classes and research, and attend continuing education activities available to members of the JRBP community.

SPECIFIC COURSE DESCRIPTION OF GOALS AND LEARNING OUTCOMES

Although this was referred to above, here we deliberately re-articulate, in bullet points, the central goal and objectives.

The central goal is to provide students with an *active and outdoor engagement* of the sciences and field methods of ecology, geology, hydrology, botany, archaeology, and natural history of the preserve. After successful completion of this course students will be able to:

- Understand relevant theories and frameworks, as well as the natural history behind the scientific disciplines that serve as the foundation to better understand field ecology and conservation practices
- Practice and implement field methods and data analyses for the natural sciences in various ecosystems
- Lead ecological and natural history educational tours to broad audiences that visit Jasper Ridge Biological Preserve

COURSE EXPECTATIONS

First, the expectations are to converge with the preserve's mission, vision and pledge, articulated here.

Jasper Ridge Biological Preserve:

Mission:

To contribute to the understanding of the Earth's natural systems through research, education, and protection of the preserve's resources.

Vision:

To be a leader for innovation in research, education, and communication on natural systems, through providing an interdisciplinary, cross-cultural, and place-based training ground for effective Earth stewardship by our community and the next generations of global leaders.

Pledge:

To be a safe and welcoming place for discovery, discussion, and community for people of all cultures and identities.

BIO/ EARTHSYS 105 as a Community of learning and respect: We will build a community-based learning environment. We will all be respectful and thoughtful in our interactions and we expect that everyone feels comfortable in sharing ideas, ask questions, listen actively and collaborate effectively. We will strive for an inclusive and collaborative course and welcome any suggestions for improvement.

READINGS, MATERIALS, AND RESOURCES

- Each student will be provided a Jasper Ridge BIO/EARTHSYS 105 Course Reader containing the text for the course, as well as other resources. Additional handouts, reading assignments and replacements will be made digitally through accessing the online version on Canvas.
- Stanford University and its instructors are committed to ensuring that all courses are financially accessible to all students. If you are an undergraduate who needs assistance with the cost of course textbooks, supplies, materials and/or fees, you are welcome to approach the instructors team directly.
- If you would prefer not to approach us directly, the Diversity and First Generation Office's Opportunity Fund is designed to financially assist undergraduate students who are experiencing a temporary financial challenge from a hardship or who are seeking funds for an opportunity related to their academic, professional, and/or social development. Go to <https://diversityandfirstgen.stanford.edu/resources> or contact Joseph Brown, the Associate Director of the Diversity and First-Gen Office (jlbrown@stanford.edu; Old Union Room 207). Dr. Brown is available to connect you with resources and support while ensuring your privacy.

COURSE WEBSITE ON CANVAS

Our course Canvas website is:

Any suggested reading and other course material will be posted on Canvas.

Announcements will also be made through the Canvas site, and any questions should be posted to the Discussions tab. Homework assignments, project proposal, and papers should be submitted via the Canvas **Assignments** tab.

COURSE GRADE CALCULATION

Completing the course will require attending, participating, completing the homework assignments, and the independent project.

Attendance and Participation: You are expected to attend all scheduled classes and as many of the JRBP community-wide lectures. If you can't make a class because of other unavoidable circumstances, make arrangements with instructors/TA's to make up the work.

Homework: There will be weekly homework assignments. The homework is designed to prepare you for the upcoming week's session and fieldwork and to reinforce information delivered during sessions. It is very important to do the homework and reading before class each week in order to get the most out of the class. Homework should be emailed to the teaching team before class. It will be returned via email with comments the following week. Help is available from all of us if needed and you will have the use of the JR library materials.

Proposal Writing Projects: You will be expected to develop project consisting of a written proposal for a project that will contribute to the mission of JRBP. The project proposal will be presented at the end of the Spring quarter and the teaching team will promote the opportunities available at Jasper Ridge in case the student would like to continue working and executing the proposed research.

ACADEMIC ACCOMMODATION

Students with Documented Disabilities: Students who may need an academic accommodation based on the impact of a disability must initiate the request with the Office of Accessible Education (OAE). Professional staff will evaluate the request with required documentation, recommend reasonable accommodations, and prepare an Accommodation Letter for faculty. Unless the student has a temporary disability, Accommodation letters are issued for the entire academic year. Students should contact the OAE as soon as possible since timely notice is needed to coordinate accommodations. The OAE is located at 563 Salvatierra Walk (phone: 650-723-1066, URL: <https://oae.stanford.edu/>)

SAFETY AND HEALTH GUIDELINES

General Safety Considerations

- We will follow the standard Health & Safety Information specific to Jasper Ridge delineated in this link, and will also be provided to students: <https://jrpb.stanford.edu/content/health-safety-information>
- The course will follow the guidelines set forth in the Cardinal Recovery guide and the Group Meeting Policy which includes best practices for safe distancing, hygiene, face coverings, vehicle use, equipment sharing, etc. <https://cardinalrecovery.stanford.edu/research/research-recovery/>.
- The course will also follow the guidelines set forth in the Overview of gatherings and meetings at Stanford <https://healthalerts.stanford.edu/covid-19/prevention-care/overview-of-gatherings-and-meetings-at-stanford/>. under "Classroom instruction and related university-led academic activities (e.g., office hours, mentoring, advising)"

Updated guidelines specific to Jasper Ridge

- Course will follow the Research Safety Protocols Requirements during Stanford Stage 2 COVID-19 Restrictions set by Jasper Ridge: https://jrpb.stanford.edu/sites/default/files/10-8-20_JRBP_Research_Safety_Protocol_Requirements_during_COVID-19_0.pdf
- These include following the Instructional Activities In Person Instructional Recovery Plan <https://cardinalrecovery.stanford.edu/instructional-activities/> which also includes the guidelines on cleaning and disinfecting materials and equipment between each use.
- We will instruct and have the materials ready so that the facilities are clean & disinfected between use. We will use the outside facilities for hand-washing and soap and hand-sanitizer will be readily available. When using bathrooms, we will stagger use and restrict the number of people allowed in at one time.

Teaching and learning Jasper Ridge

- We will follow all of the safety and health guidelines listed above. In addition, this year the class will only enroll 10 students. Students will be provided with Stanford-approved transportation (bus from Stanford's Marguerite Service) to ride from main campus (departing at 1:15 PM) to JRBP, and vice versa (departing from JRBP at 5 PM).
- The entire class will meet outdoors at Jasper Ridge for a collective introduction of the day's topic, and then will be divided into smaller groups lead by one of the instructor team members, following all safety protocols of safe-distancing, face coverings, and hygiene. The class will include walking around Jasper Ridge and if needed, sitting down on the ground also following all safety protocols.
- When conducting fieldwork on site all class members must follow the guidelines set forth in the "[Field Research: COVID-19 Prevention Best Practices](#)" section of Stanford Research Recovery, which includes best practices for hygiene, face coverings, vehicle use, equipment sharing, etc. The course will not have instruction inside Jasper Ridge classrooms.

**TENTATIVE COURSE SCHEDULE
AND ASSIGNMENT / ASSESSMENT DEADLINES**

Week	Dates	Topic	Assignment for next class	Led by:
Week 1	04/01/21	Introduction to Jasper Ridge; Jasper Ridge ecosystems. (This will be an online session)		Rodolfo Dirzo, Jorge Ramos, TAs
Week 2	04/08/21	Geology (probably online)		Richard Nevle
Week 3	04/15/21	Soils		Scott Fendorf
Week 4	04/22/21	Archaeology, Anthropology and Native American History		Laura Jones
Week 5	04/29/21	Each one teaches one and Jasper Ridge Research		Stuart Koretz, Nona Chiariello
Week 6	05/06/21	Biodiversity and plant communities		Rodolfo Dirzo, Jorge Ramos
Week 7	05/13/21	Plant evolution		Katherine Preston
Week 8	05/20/21	Secondary metabolites, herbivory, evolution of plant defense		Stuart Koretz, Rodolfo Dirzo
Week 9	05/27/21	Mammals		Rodolfo Dirzo, Trevor Herbert
Week 10	06/03/21	Terrestrial invertebrates		Rodolfo Dirzo
	06/08/21	Graduation and Summer Celebration		