

# Syllabus: Forest Sustainability in an Era of Rapid Change

Instructor: Joan Dudney  
Email: dudney@ucsb.edu  
Office Hours: Wednesday 3:15-4:15 pm; BH 4524

Fall, 2025  
MW 2-3:15  
Location: BREN 1510

## Course Description

Humans are reshaping Earth's forests at an unprecedented rate. This interdisciplinary, solutions-oriented course delves into the complex challenges of sustainable forest management in an era of rapid change—the Anthropocene. Graduate students will learn how different social (e.g., resource extraction, social justice) and ecological challenges (e.g., forest disturbances under climate change) affect ecosystem resilience and the persistence of critical natural resources. Throughout the course, Bren faculty and community members will lead lectures and discussions on different topics related to forest sustainability. Students will also lead in-class discussions on topics that will scaffold towards the end-goal of creating a forest management plan (FMP). This course equips students with interdisciplinary insights and practical experience, empowering them to make meaningful contributions towards addressing today's increasingly complex forest management challenges.

## Student Learning Outcomes

By the end of fall quarter, each student will be able to:

1. Identify important social and ecological drivers of forest change and the foundational and emerging approaches to managing these changes;
2. Critically evaluate interdisciplinary scientific literature related to forest sustainability;
3. Describe and explain concepts related to forest sustainability, including resilience theory, novel ecosystems, forest management, and economically-based resource management;
4. Develop practical skills in forest management by applying the scientific literature and insights from in-class discussions to develop a forest management plan (FMP).

## Course materials

Readings and assignments will be posted each week on Canvas and all will be freely available.

## Assignments and deliverables

This course has five deliverables, some of which are weekly (readings and discussion), others will occur periodically throughout quarter, and some will occur just once. Assignments and deliverables are as follows:

### 1. **Engage classmates in discussions (every week):**

- Contribute to online discussions on canvas (before Wednesday's lecture), which includes responses to each weekly prompt and at least one response to another student's written answer.
- Contribute to in-class discussions and/or consistent class attendance

### 2. **Lead a class discussion (once):**

- To build a deeper understanding of a topic of choice, starting Monday Oct 6, students will lead Monday discussions, including a 30-min overview and group discussion. This includes:
  - i. Developing a 15 min presentation with the following: 1) introduce the topic, including main theories and ideas, 2) relevant background (will require some independent research), and 3) primary takeaways from the readings;
  - ii. Following the presentation, lead a 15 min class discussion about the topic(s). Have fun and be creative; make this your own discussion!

### 3. **Develop a forest management plan (FMP) (periodic assignments):**

- Over the course of the quarter, students will work in small groups to develop an FMP on a forested region that is not within the US and includes **multiple forest types across elevation or latitude**. The FMP must include:
  1. Header page, includes report outline;

2. Area background, which could include a general introduction of the region with maps, the different uses of that forest, and the important stakeholders;
  3. Detailed description of the stakeholders, including private and public lands, social groups' uses, social justice issues, economic status of the populations using the area;
  4. Silviculture and harvesting, including historical management regimes, outputs, tree species selection, as well as current practices if relevant;
  5. The broad ecology of the region, including the general description of the region's natural history, including historical disturbance regimes, climate and biophysical processes, ecoregions, current and future threats to the forests, endangered species, invasive species, and historical forest management;
  6. Forest management areas for each ecoregion or distinct forest area, include all of the following:
    - a. *Description of the ecology* of each specific forest type, historical management, disturbance regimes, threatened areas or species, invasives, current condition, and current threats
    - b. *Desired conditions*, including concise statements of the ecological, social, and economic characteristics desired for that forest (e.g., structure, composition, function, access, experiences)
    - c. *Management plan*, describes in detail the management plan that will be applied to this region (e.g., details about a RAD application, or adaptive management, a combination of multiple plans). This will be developed throughout the class.
- Extra credit option (5 extra credit points):
    - i. Develop appendices with different maps of different forests, uses, threats, private and public lands, and important ecological information
4. **Provide peer-review feedback on FMPs (once):**
    - Provide detailed peer-reviews of other student's FMPs
  5. **Present the FMP in class (once):**
    - Develop a 10-12 min final presentation on your FMP. Include the background, design, threats, and your recommendations for forest management areas. Include a few slides discussing your process as a group to developing the plan.

**Exams:** There will be no exams in this course

## Grading

In-class participation and responses to discussion questions on canvas – 25%

Student-led discussions – 15%

Peer feedback on FMP – 5%

Final presentation on FMP – 20%

FMP assignments – 5%

Written FMP – 30%

## How to succeed in this course

If you regularly attend class regularly, turn in the assignments on time, and participate fully in your group projects, you will succeed in this course. Please keep me informed of your individual progress and alert me if you need help. All lectures are given in person and will not be recorded.

## Course communication

Please use the Canvas Inbox Tool. Inquiries received Mondays through Fridays will usually receive a reply within 48 hours of receipt. I do not check my email regularly in order to give my full attention to my research and teaching; I will *not* be checking email over the weekend. If it's a week day, however, and you have not received a reply within 48 hours, please resend your inquiry. If you have an emergency, please contact Leticia Porter, Assistant Dean: [porterl@ucsb.edu](mailto:porterl@ucsb.edu)

## What we will do in case of temporary course disruptions

If there are course disruptions during class, I will provide instructions about next steps in class. If there are course disruptions outside of class, I will provide information on canvas through announcements.

## Course Policies

- **Attendance policy:** In this course, we'll work and learn together, so it's critical that you show up for class and attend the invited lectures.
- **Make-up and late work policy:** Late FMP assignments will be docked 5% per day late. Online discussions will not be graded if they are late, unless there is an extenuating circumstance.
- **Use of Pronouns:** Maintaining a respectful learning environment is important for this course. One way to do this is to ensure that we are using the correct pronouns of other students and instructors. Pronouns are words used in place of someone's name, and common third person pronouns are she.her.hers, they.them.theirs, and he.him.his. Remember that it is always okay to use someone's name to avoid using the wrong pronouns for them. For more information, visit <http://rcsgd.sa.ucsb.edu/education/pronouns>.
- **Non-discrimination policy:** All students have the right to learn and participate in a classroom environment free of intimidation, harassment, and discrimination based on characteristics such as gender, race, age, sexual orientation, disability, religious or political beliefs and affiliations. I will address any related issues that surface immediately; please help me to cultivate a positive classroom environment by communicating any concerns that you have.
- **Disability assistance:** Students with disabilities are encouraged to contact the [Disabled Students Program](#) to get documentation of needs and to generate suggestions for reasonable accommodation (room 2120 Student Resources Building, phone: 805.893.2668; email: [DSP.Help@sa.ucsb.edu](mailto:DSP.Help@sa.ucsb.edu)). Requests for accommodation via Disabled Students Program will be granted.
- **AI policy:** All assignments are to be conducted by students without the use of AI, so that students can learn the skills necessary to complete the assignments. Use of AI to support studying outside of class is OK but remember that AI can make mistakes, omit important details, and produce biased information. Misuse of AI, including plagiarism or misrepresentation of AI-generated work as solely one's own, will be treated as a violation of the academic integrity policy.

## Academic integrity

- I know how challenging it can be to keep up with all your courses. If you are struggling academically, please reach out to me. I am here to help.
- By enrolling at UC Santa Barbara, you agreed to uphold all of the responsibilities within the [UCSB Student Conduct Code](#). You will always be responsible for the academic integrity of your work and your contribution to your group's work.
- Academic integrity means that anything you submit must be your original work, and that any information you provide to the university (instructors, staff) must be true (e.g., regarding illness, emergencies). Any use of others' work must be properly attributed. The strictest disciplinary action will be pursued in all instances of academic misconduct.
- Academic misconduct includes (among other things): cheating on assignments; plagiarizing any part of work done by someone else; and submitting the same (or substantially similar) work for two courses without the professors' consent, providing false information, and misuse of course materials.
- For more information about academic integrity see the following very helpful and accessible resources at UCSB: [Academic Integrity at UCSB: A Student's Guide](#); [OISS's overview of academic integrity](#); [UCSB Writing Program's plagiarism in writing policy \(very important in coursework and professionally\)](#)

## Student Resources

**Writing.** The [Writing Lab at the Campus Learning Assistance Services](#) helps students with many aspects of writing, including getting started, making revisions, organizing ideas for papers, proofreading, editing, and general writing skills. Schedule an appointment at the Student Resource Building (SRB) 3231 or [my.sa.ucsb.edu/clas](http://my.sa.ucsb.edu/clas).

**Mental health.** The [Mental Health Peer Program \(MHPP\)](#) is a UCSB campus resource offering guidance with regard to stress management, anxiety, depression and other related challenges. They offer a range of resources, including psychological counseling services and the Test Anxiety Program (for students experiencing mild to moderate anxiety before and/or during an exam). MHPP is located in Counseling and Psychological Services (CAPS), Building 599. Phone consultations are available 24 hours: (805) 893-4411.

**Food and housing.** If you are facing any challenges securing food or housing, and believe this may affect your performance in the class, you are urged to meet with a Food Security and CalFresh Advocate, who is aware of the broad variety of resources that UCSB has to offer. You are also urged to contact the professor or teaching assistant if you are comfortable doing so. Please visit [food.ucsb.edu](http://food.ucsb.edu) for additional resources including CalFresh and the AS Food Bank.

**International students.** [The Office of International Students and Scholars](#) provides services and advising to international students and scholars. They offer support groups, opportunities to build community with other international students, faculty, and staff. They also offer student advising by staff and peers.

**Family.** The UCSB [My Family Resources](#) website provides a centralized location for parents, and others, to find information on child, youth, older adult, and family services.

## Calendar

Assignments and readings will be posted each week on Canvas.

Some of the scheduled lectures and topics may change if speakers have to change their day or cancel; I will do my best to keep you all informed if this happens, but please allow for “life happens” moments from our wonderful speakers who volunteer their time to speak with us.

| Week       | Day/date    | Topic                                                                    | Readings                                   | Due for Class                                          | FMP assignments (due Fridays)               |
|------------|-------------|--------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------|---------------------------------------------|
| Week 1     | Mon/Sept 29 | Class introductions/forest sustainability/how to read a scientific paper | Folke, 2015; Spieles 2010                  | Introduce yourself on canvas and respond to the prompt |                                             |
| Week 1     | Weds/Oct 1  | FMPs; mega-disturbances and ecosystem transitions                        | Millar et al., 2015; Flores et al., 2024   | Canvas discussion; sign up for discussion days         |                                             |
| Week 2     | Mon/Oct 6   | Social-Ecological Systems; Adaptive Management                           | Manley et al., 2025; Westgate et al., 2012 | Student-led discussion, FMPs                           |                                             |
| Week 2     | Weds/Oct 8  | Speaker: Sarah Anderson: fire & justice                                  | Speaker-chosen readings; see canvas        | Canvas discussion                                      | Brief description of selected forest region |
| Week 3     | Mon/Oct 13  | Sustainable policy for forest management                                 | Petersen et al., 2018; Wunder et al., 2024 | Student-led discussion, FMPs                           |                                             |
| Week 3     | Weds/Oct 15 | Speaker: Robert Heilmayr: Forest economics                               | Speaker-chosen readings; see canvas        | Canvas discussion                                      | Draft outline and plan for the quarter      |
| Week 4     | Mon/Oct 20  | RAD, portfolio approach                                                  | Aplet et al., 2017; Schuurman et al., 2020 | Student-led discussion, FMPs                           |                                             |
| Week 4     | Weds/Oct 22 | Speaker: Nicole Molinari: Forest sky island conservation                 | Speaker-chosen readings; see canvas        | Canvas discussion                                      |                                             |
| Week 5     | Mon/Oct 27  | Disturbance regimes and interactions under climate change                | Turner 2010, Dudney et al., 2025           | Student-led discussion, FMPs                           |                                             |
| Week 5     | Weds/Oct 29 | Speaker: Max Moritz: Wildfire management                                 | Speaker-chosen readings; see canvas        | Canvas discussion                                      | First half of FMP due; Sect: 1-4            |
| Week 6     | Mon/Nov 3   | Forest economics and silviculture                                        | Keohane & Olmstead Ch7                     | Student-led discussion, FMPs                           |                                             |
| Week 6     | Weds/Nov 5  | Andrew Plantinga: Forest economics                                       | Speaker-chosen readings; see canvas        | Canvas discussion                                      |                                             |
| Week 7     | Mon/Nov 10  | Good fire, Indigenous land management                                    | Diver 2016; Trostler 2012                  | Student-led discussion, FMPs                           |                                             |
| Week 7     | Weds/Nov 12 | Speaker: Irene Vasquez: Indigenous management                            | Speaker-chosen readings; see canvas        | Canvas discussion                                      | Draft final FMP due                         |
| Week 8     | Mon/Nov 17  | Novel ecosystems/ assisted migration                                     | Hobbs et al., 2014; Palik et al., 2022     | Student-led discussion, FMPs                           |                                             |
| Week 8     | Weds/Nov 19 | Field trip                                                               | None                                       | None                                                   | Peer-reviews due                            |
| Week 9     | Mon/Nov 24  | No class: holiday week                                                   | None                                       | None                                                   |                                             |
| Week 9     | Weds/Nov 26 | No class: holiday week                                                   | None                                       | None                                                   |                                             |
| Week 10    | Mon/Dec 1   | Start FMP presentations                                                  | None                                       | None                                                   |                                             |
| Week 10    | Weds/Dec 3  | Finish FMP presentations/wrap up                                         | None                                       | None                                                   |                                             |
| Final week | Weds/Dec 10 | None                                                                     | None                                       | None                                                   | <b>FMP Final draft due on Weds @ 12am</b>   |

